

TENTH REPORT • FISCAL YEAR 1970
FOREIGN DISASTER EMERGENCY RELIEF

AGENCY FOR INTERNATIONAL DEVELOPMENT



CONTENTS

	<u>Page</u>
Analysis	<i>ii-vii</i>
Quick Facts	<i>ix</i>
Tables of Statistics and Expenditures	<i>xi-xiv</i>
Individual Accounts of Disasters - Case Studies	
Afghanistan - Drought	277
Algeria - Floods	1
Bolivia - Polio	97
Botswana - Drought	9
Ceylon - Flood	279
Chad - Food Shortage	11
Colombia - Floods	99
Colombia - Floods	101
Costa Rica - Floods	105
Costa Rica - Floods	109
Cyprus - Windstorm	287
Ecuador - Floods	111
El Salvador, Guatemala, Honduras - Hurricane Francelia	115
El Salvador, Honduras - Undeclared War Displaced Civilians	129
El Salvador, Guatemala, Honduras, Nicaragua--Equine Encephalitis ..	153
Ethiopia - Drought	15
Indonesia - Famine	307
Jordan - Drought	291
Korea - Floods	311
Korea - Cholera	317
Laos - Flood	321
Malagasy Republic - Cyclone	21
Mali - Drought	25
Mali, Niger, Nigeria, Upper Volta - Yellow Fever	27
Morocco - Floods	33
Niger - Meningitis	39
Pakistan - Fire	293
Panama - Floods	163
Peru Oct. 1969 - Earthquake	169
Peru - Floods	173
Peru May 1970 - Earthquake	177
Romania - Floods	73
Somalia - Drought	41
Surinam - Floods	275
Taiwan - Typhoons	325
Togo - Displaced Persons	45
Tunisia - Floods	49
Turkey - Earthquake	295
Upper Volta - Drought	71
Yugoslavia - Earthquake	89

(FDER Recurring Report No. W-588)

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT

TENTH REPORT - JULY 1, 1969 THROUGH JUNE 30, 1970

FOREIGN DISASTER EMERGENCY RELIEF

The United States and other countries throughout the world helped when disaster struck many nations during fiscal year 1970. The extending of this assistance meant that disaster victims received help and that the country concerned was encouraged in its efforts to relieve suffering and make a start on recovery. By these actions, the world demonstrated its compassion and humanitarian concern.

UNITED STATES COORDINATION

In our country, President Nixon took the lead in coordination with the Secretary of State, Administrator of the Agency for International Development, Secretary of Defense, Secretary of Health, Education and Welfare, and other government officials, to give assurance that the United States not only extended its sympathy and concern, but also its resources to provide for life-saving and rescue with helicopters, airlift, boats and vehicles, trained emergency personnel and immunization teams, as well as emergency supplies such as tents, blankets, cots, household utensils, medicines, vaccine and large quantities of food. They were sent to meet human requirements in a timely and considerate manner. The United States Government worked with the U. S. registered voluntary agencies, the American National Red Cross, private groups, international organizations and other nations to provide emergency disaster relief. Recovery and short-term rehabilitation projects followed in some cases for up to 90 days or were assumed by ongoing A.I.D. and voluntary agency programs, or by the country itself.

It was the privilege and role of the A.I.D. Disaster Relief Coordinator's staff to assist in tying together these combinations of things, services and events in the name of the people of the United States of America. The degree to which they were achieved is described in the case studies in this report. It is hoped that these studies will be used for information and knowledge on how the United States handled disaster relief. Within these descriptions, you will find facts on which to evaluate strengths and weaknesses, as well as data on preparedness and pre-disaster planning.

As you read this report, please bear in mind that international disaster relief is comparatively new in the foreign affairs of the world. During the last century, for example, food and clothing were distributed by missionaries in various parts of the world. From these small beginnings others joined in helping. The United States Congress appropriated \$50,000

for earthquake victims in Venezuela in 1812. Subsequent giving of disaster relief from the United States required similar Acts of Congress. This lasted until 1954, when the Mutual Security Act authorized emergency disaster and famine relief and gave authority to use the contingency fund for such purposes, and the Agricultural and Trade Development Act, P. L. 480, authorized use of US food resources. The Disaster Relief Coordination function in A.I.D. was put together in one office and given a small staff in 1964.

SCOPE OF INTERNATIONAL DISASTER RELIEF IN FISCAL 1970

Reports indicate that 68 countries besides the United States assisted Peru after the earthquake of May 31, 1970. Other major disasters receiving worldwide assistance were: Algeria Floods - 35 countries; Tunisia Floods - 45 countries; Morocco Floods - 31 countries; Somalia Drought - 15 countries; Yugoslavia Earthquake - 43 countries; Ceylon Floods - 22 countries; Turkey earthquake - 56 countries; and Korea Floods - 23 countries.

Earthquakes, hurricanes (typhoons and cyclones), and floods attract the most international assistance. Creeping disasters such as drought and afflictions such as epidemics receive less bilateral reaction from other nations. Civil strife and aftermath of war involve political problems of high tension that affect the amount and type of relief from one nation to another.

NEW DEVELOPMENTS IN INTERNATIONAL DISASTER RELIEF

During 1970, the United Nations gave considerable attention in the General Assembly, in UNESCO, and the Secretary-General's office to emergency disaster relief for natural disasters. New resolutions were passed, and new impetus was given to trying to determine how the world can best react when major disasters strike in countries that need help from other nations. NATO and the Organization of American States worked on regional improvements for disaster relief, including plans to reduce the consequences of disasters. These are important and significant steps in the sophistication of disaster relief management, prediction, preparedness and pre-disaster planning.

LOCATION OF DISASTERS

From Fiscal 1965 to 1970 the United States assisted other countries in a total of 302 disasters--96 were in Latin America; 80 in Africa; 60 in East Asia; 56 in Near East and South Asia; and 10 in Europe.

Africa

Africa had 16 disasters on which US help was given in FY 1970. Six of these were drought resulting in food shortages and threatened famine; 3 were floods; 5 were epidemics; and 1 was an emergency involving displaced persons expelled from Ghana. The Tunisia Flood was the most serious of these disasters and the US provided assistance to Tunisia valued at \$4,421,000. Tunisia estimated the damage at \$100 million. The economic impact of this flood disaster is described on pages 52 and 53.

Europe

Usually there are not more than one or two disasters a year in Europe that require US assistance. There were two in FY 1970--another earthquake in Yugoslavia and massive floods in Romania. Romania placed the dollar damage at \$500 million, making it the second most costly disaster in FY 70. US assistance to Romania was valued at \$12,867,000.

Latin America

This region ranks as the most disaster prone. For FY 1970 there were 22 disasters in Latin America for which US assistance was given--8 were floods; 3 countries were hit by one hurricane; 2 earthquakes; 5 were disease outbreaks; and 4 countries were involved in disaster relief following the conflict between El Salvador and Honduras. US disaster relief assistance for Latin America in Fiscal 1970 was valued at over \$30 million.

All other disasters in Latin America and in fact the world were dwarfed by the immensity of the earthquake in Peru on May 31, 1970. Despite the very large losses in property and infrastructure, estimated at \$530 million, the tragedy of this earthquake was in the 66,794 people who were killed and in the number of people left homeless, estimates for which ranged from 500,000 to 800,000. The earthquake brought forth a worldwide response from governments, relief organizations and private groups. The US gave assistance valued at \$26.8 million. Mrs. Richard Nixon flew to Peru to express the concern of the people of the United States for the victims of this earthquake; to bring relief supplies, make cash donations on behalf of the private sector; and to observe the effects of the earthquake. This disaster case study is the longest in this report and has a separate index which is on page 177.

Near East and South Asia

There were six disasters in this region. The major ones were the flood in Ceylon which affected a million people and the earthquake in Turkey which killed over one thousand people and resulted in \$55.5 million in property damages. US disaster relief assistance for this region totaled over \$4 million. The East Pakistan cyclone of November 12-13, 1970, will be included in the Fiscal 1971 report.

East Asia

There were five disasters in East Asia. The worst of these were in Korea. One was a major flood in which 408 people were killed and property damage was estimated at \$22.4 million and the other was cholera. US disaster relief in this region was valued at \$2.9 million.

U. S. VOLUNTARY AGENCIES AND THE PRIVATE SECTOR

Voluntary agencies, throughout the year and particularly during the Peru earthquake relief operations, maintained close relationships with AID/DRC.

Information was exchanged, emergency shipments coordinated and relief and rehabilitation projects expedited. Their contributions for disaster relief in Fiscal 1970 were valued at over \$12 million. Please see the individual case studies for descriptions of their work in behalf of those in distress.

Establishment of the Peru Earthquake Voluntary Assistance Group (PEVAG) brought together a wide representation of voluntary organizations in the United States devoted to helping Peru during the emergency, rehabilitation and reconstruction periods. President Nixon designated Robert H. Finch, Counsellor to the President, as over-all coordinator. When Mrs. Nixon returned from her visit to Peru she met with the members of PEVAG at the White House to thank them and to review reconstruction efforts of the voluntary agencies. The outstanding manner in which the voluntary groups worked together again demonstrated the spirit of cooperation, coordination and advantages of combined US public and private efforts in helping disaster victims.

Some of the larger US registered voluntary agencies that provide assistance to victims of many disasters each year are: American National Red Cross, CARE, Catholic Relief Services, Church World Service, Lutheran World Relief, Mennonite Central Committee and the Seventh-Day Adventist Welfare Service. For the Peru earthquake some 40 US voluntary agencies and private groups made contributions. (See the Peru case study, pages 224-251.)

AID/DRC and voluntary agencies working together believe that foreign disaster relief operations are strengthened when:

1. There is a combined sharing of information in the country among government officials and public voluntary groups.
2. Donated clothing is clean, accurately sorted and packed by types and sizes and these data are marked on each package.
3. Air transport is used only for high priority, specifically identified supplies.
4. Distribution to victims is made in full compliance with local conditions and by the local people themselves insofar as possible.
5. All medicine requirements for disaster victims are verified by in-country doctors and pharmacists prior to shipment from the US and random shipments, including sample drugs, etc., are avoided during the emergency.
6. Over-all assessments are made prior to shipping food and things in order to avoid waste, duplication and distribution difficulties. In most cases donations of money by private citizens to relief organizations are preferred so that fully acceptable and useful items can be obtained to meet the needs of those in distress.

DISEASE OUTBREAKS

It often happens that disease outbreaks in one country affect bordering countries at the same time. Some American Ambassadors may authorize use of contingency funds for disaster relief to prevent a threatened epidemic. Other Ambassadors, where the countries have resources to take preventive measures, may not authorize use of contingency funds, unless the epidemic has occurred and US assistance is requested. There are other examples where resources of a previously established USAID health project are diverted to the threatened or actual epidemic (such as yellow fever in Nigeria). During Fiscal 1970 there were 10 countries involved in these kinds of emergencies in which US assistance was given--Yellow Fever in Mali, Niger, Nigeria and upper Volta; Meningitis in Niger; Polio in Bolivia; Equine Encephalitis in El Salvador, Guatemala, Honduras and Nicaragua; and Cholera in Korea.

Use of the AID contingency fund for disease outbreaks, not of epidemic proportions, require special consideration. AID/DRC guidelines are: US Missions consider all possibilities for providing health immunizations and medical assistance before declaring a disasters. Resources and capabilities of the World Health Organization, including the Pan American Health Organization for Latin America, should first be investigated. Where diseases are endemic, USAIDs should work with the host country and encourage planning and funding in advance for prevention and control.

In the case of cholera, advance planning has been done. At the time of the cholera epidemic in Korea in Fiscal 1970, vaccine, intravenous replacement fluids and injector guns were available from the NESA cholera emergency reserve stocks in Turkey and New York and were rushed to Korea. This reserve was set up in April of 1966, and through its resources we were able to meet the Korea cholera emergency.

In the spring of 1970 an administrative decision was made by the NESA Bureau to close out the cholera supplies, equipment and vaccine reserves. Because of a pandemic of cholera in FY 1971, a Cholera Task Force has been set up by the Administrator of AID in the Technical Assistance Bureau, headed by Richard C. Parsons on temporary detail from NESA Region. An allocation of \$236,000 was made from FY 1971 disaster relief contingency funds to procure, donate to the World Health Organization (WHO), and to ship 10 million millileters of cholera vaccine. Under the terms of the new arrangement, WHO has been designated the focal point for all cholera assistance requests and policy statements have gone to the field urging all Ambassadors to rely on WHO to the maximum extent possible. Disaster emergency relief authority is to be invoked only in a definitive situation wherein WHO and other sources are unable to cope with the emergency demands and advance clearances are worked out with the Cholera Task Force, which maintains liaison with AID/DRC.

Also, many countries throughout the world are cooperating with USAIDs and international organizations on immunization programs to prevent and control measles and smallpox.

RECOVERY AND REHABILITATION

Disaster requirements quickly move from one phase to another. As soon as rescue, life saving and emergency actions can be taken, the populations affected turn to recovery and rehabilitation. Prompt decisions must be taken by the country hit by disaster. Homeless people need guidance on whether to return to the place in which they formerly lived or to different locations. Shelter, health care, food are critical, continuing needs for the months ahead. AID/DRC helped coordinate general short-term requirements and in addition worked to obtain some 400,000 aluminum sheets for people without roofs in Peru; artificial insemination equipment for replacement of the livestock destroyed by floods in Romania; and Bailey bridges to reopen highway and railroad bridges washed away by floods in Tunisia, Morocco and Guatemala.

PREPAREDNESS AND TRAINING

The first AID sponsored seminar on national disaster planning and preparedness was a success. Four countries, Indonesia, India, Chile, Trinidad, and the League of Red Cross Societies sent representatives to the United States in November 1969. During six weeks concentration on national disaster plans, administration, prediction and warning systems, preparedness, relief operations and recovery, each participant was able to relate current knowledge on these subjects to his own country's plans. Inter-relationships with other nations, voluntary groups and international organizations were reviewed. Based on these findings, a second comprehensive and professional seminar was set up for November 1970.

COMPARISONS

In making comparisons between FY 1969 and FY 1970 (see Quick Facts and Comparisons on the next page) the following considerations are important:

1. Disaster deaths. The FY 1970 figure is the highest recorded from natural disasters since these reports began in 1964. The FY 1969 figure of 1,018,534 deaths included an estimated one million under the Nigeria Civil Strife (July 1967 to June 30, 1969). This estimate was made by various assistance groups for the 2-year period, but recent indications are that it was too high. No exact figure is yet available.
2. For Fiscal Year 1969, 67% of the total US contribution went for victims of the Nigeria Civil Strife.
3. For Fiscal Year 1970, 43% of the US assistance went for the Peru earthquake; 21% for the Romania floods; and 7% for the Tunisia floods.
4. The \$60.9 million in US assistance for FY 1970 does not include the cost of personal services provided by government and voluntary personnel. The value of these services was inestimable.

Stephen R. Tripp

Stephen R. Tripp
Disaster Relief Coordinator
Office of Private Overseas Programs

QUICK FACTS AND COMPARISONS

	Fiscal Year 1970		Fiscal Year 1969	
No. Reportable Disasters		51		36
No. Countries Affected		36		32
Disaster Deaths		72,915		1,018,534
Total Reported Victims		11,743,040		32,482,216
AID EXPENDITURES FOR DISASTERS				
<i>Contingency Fund</i>	\$6,259,000		\$ 4,447,000	
<i>Supporting Assistance</i>	9,704,000		24,469,000	
<i>USAID Resources or Projects</i>	262,000		10,000	
<i>US-Owned Local Currency</i>	97,000		292,000	
<i>CCC Credit</i>	1,500,000			
TOTAL.....		\$17,822,000		\$29,218,000
PUBLIC LAW 480 FOOD FOR PEACE				
<i>USG Food Grants to Governments or to the World Food Program for disaster victims</i>	\$21,908,000		\$71,913,000	
<i>Donated through or by US Voluntary Agencies</i>	8,709,000		1,439,000	
TOTAL.....		\$30,617,000		\$73,352,000
CONTRIBUTIONS OTHER USG AGENCIES:				
<i>U. S. Military (DOD)</i>	296,000		42,000	
<i>U. S. Geological Survey</i>	(NA)		9,000	
TOTAL.....		\$ 296,000		\$ 51,000
TOTAL VALUE USG ASSISTANCE		\$48,735,000		\$102,621,000
TOTAL VALUE ASSISTANCE BY U. S. VOLUNTARY AGENCIES & PRIVATE SECTOR....		\$12,202,000		\$ 12,246,000
TOTAL U. S. ASSISTANCE		\$60,937,000		\$114,867,000
TOTAL VALUE ASSISTANCE BY OTHER NATIONS & INTERNATIONAL ORGANIZATIONS..		\$59,493,000		\$ 95,495,000
TOTAL VALUE WORLDWIDE ASSISTANCE.....		\$120,430,000		\$210,362,000
VALUE OF REPORTED HOST COUNTRY SELF-HELP.....		96,595,000		\$130,974,000

JULY 1, 1969 TO JUNE 30, 1970 - REPORTED FOREIGN DISASTER STATISTICS AND EMERGENCY RELIEF EXPENDITURES
PLUS 5-YEAR TOTALS - FY 1965-1969

COUNTRY AND DISASTER	NUMBER KILLED	TOTAL NO. REPORTED VICTIMS	FUNDS EXPENDED OR VALUE OF ASSISTANCE PROVIDED IN THOUSANDS OF DOLLARS									
			CONTINGENCY FUNDS		AID PROJECT OR OTHER US GOVT. FUNDS	FOOD FOR PEACE		VOLAGS DOD	VOLAGS OTHER U.S. ASSISTANCE	TOTAL U.S. ASSISTANCE	REPORTED ASSISTANCE OTHER NATIONS	REPORTED ASSISTANCE HOST COUNTRY
			BY AMB.	AID/W		GOVT. TO GOVT. OR TO WFP	BY VOLAGS					
AFRICA			\$	\$	\$	\$	\$		\$	\$	\$	\$
Algeria Floods Fall, 1969	76	200,000	25	34			803	X	33	895	777	*
Botswana Drought 1969		87,600				2,653				2,653	-	*
Chad Food Shortage '69		187,500	25	26				X		51	16	6*
Ethiopia Drought 1969		1,700,000	25			615				640	15	*
Malagasy (Rep.) Cyclone 2/70	70	10,070	7				3	X		10	34	204
Mali Drought 1969		840,000	25			258				283		439
Yellow Fever 1969-1970												
Mali	13	23	25	1						26	7	*
Niger	2	5	9							9	13	*
Nigeria	2,000*	80,000			115					115	1	20*
Upper Volta	130	130*	25	31						56		
Morocco Floods 1/70	11	266,452	25	216			594	X	68	903	857	*
Niger Meningitis '69-70	319	2,677	25							25	*	*
Somalia Drought 1969		30,000	14			443				457	74	40*
Togo Displaced Persons 12/69		200,000	7						*	7	66	*
Tunisia Floods Fall 1969	540	271,809	25	157	1,804	2,245		X	190	4,421	3,175	8,925*
Upper Volta Drought 1969		2,120,000	19				224			243	516	*
AFRICA TOTAL	3,161	5,996,266	281	465	1,919	6,214	1,624		291	10,794	5,551	9,634

73

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FISCAL YEAR 1970 CUMULATIVE DISASTER STATISTICS (Cont'd)

COUNTRY AND DISASTER	NUMBER KILLED	TOTAL NO. REPORTED VICTIMS	FUNDS EXPENDED OR VALUE OF ASSISTANCE PROVIDED IN THOUSANDS OF DOLLARS									
			CONTINGENCY FUND		AID PROJECT OR OTHER US GOVT. FUNDS	FOOD FOR PEACE		VOLAGS OTHER U.S. ASSIST-ANCE	TOTAL U.S. ASSIST-ANCE	REPORTED ASSIST-ANCE OTHER NATIONS	REPORTED ASSIST-ANCE HOST COUNTRY	
			BY AMB.	AID/W		GOVT. TO GOVT. OR TO WFP	BY VOLAGS					DOD
EUROPE			\$	\$	\$	\$	\$		\$	\$	\$	\$
Romania Floods May/June 1970	215	238,970	25	945	** 1,500	10,090			307	12,867	30,282	4,167*
Yugoslavia Quake - 10/69	15	200,000			*** 96				106	202	2,075	39,200
EUORPE TOTAL	230	438,970	25	945	1,596	10,090			413	13,069	32,357	43,367
<u>LATIN AMERICA</u>												
Bolivia Polio 1969/1970	2	53	2						6	8	5	*
Colombia Floods 12/69-1/70	-	70,000	3				92			95	*	1*
Colombia Floods 4/70	-	4,000	3				1			4	-	4*
Costa Rica Floods 10/69	7	4,587	1						11	12	-	*
Costa Rica Floods 4/70	23	10,023	6				3		*	9	-	40
Ecuador Floods Apr/May 1970	20	140,520	9				51		22	82	10	95*
Hurricane Francelia & Floods - 9/69												
El Salvador	2	4,602	3							3	5	*
Guatemala	269	10,469	25	256			20		16	317	75	555
Honduras	-	8,000							12	12		*
War - El Salvador/ Honduras - Dis- placed Civilians												
El Salvador	-	22,000	25		100	313	5		100	543	415	1,400*
Guatemala	-	5,500	2				3		15	20	-	25
Honduras	300*	92,800	25	401	400		121	X	293	1,240	543	*
Nicaragua	-						2			2	-	*

272

FISCAL YEAR 1970 CUMULATIVE DISASTER STATISTICS (Cont'd)

COUNTRY AND DISASTER	NUMBER KILLED	TOTAL NO. REPORTED VICTIMS	FUNDS EXPENDED OR VALUE OF ASSISTANCE PROVIDED IN THOUSANDS OF DOLLARS									
			CONTINGENCY FUND		AID PROJECT OR OTHER US GOVT. FUNDS	FOOD FOR PEACE		VOLAGS OTHER U.S. ASSISTANCE	TOTAL U.S. ASSISTANCE	REPORTED ASSISTANCE OTHER NATIONS	REPORTED ASSISTANCE HOST COUNTRY	
			BY AMB.	AID/W		GOVT. TO WFP	BY VOLAGS					DOD
LATIN AMERICA (Cont'd)			\$	\$	\$	\$	\$		\$	\$	\$	\$
Equine Encephalitis El Salvador	12	19	)									4*
Guatemala	4	8	25)						25	-		60
Honduras	-	-	11		**** 9			X	20	-		*
Nicaragua	-											12
Panama Floods April 1970	48	3,500	25	64			3	X	92	-		*
Peru Earthquake 10/1/69	150	3,150	25	8			8		20	7		26*
Peru Floods Jan-Mar./1970	3	131,003	6		25		659		6	696	-	242
Peru Earthquake 5/31/70	66,794	3,139,703	25	3,125	7,400		5,891	X	10,355	26,796	17,472*	23,100*
Surinam Floods Summer/1969	-	4,600					46			46	*	*
LATIN AMERICA TOTAL	67,634	3,654,537	221	3,854	7,934		313	6,905	10,856	30,083	18,532*	25,564*
NESA												
Afghanistan Drought 1969-70	-	48,000					375			375	*	*
Ceylon Flood 12/69- 1/70	62	1,000,000					1,713		2	1,715	413*	8,500
Cyprus Windstorm 12/22/69	3	3,000	1							1	26	439
Jordan Drought 1969-70	-	-					1,150			1,150		480
Pakistan Fire 2/9/70	-	1,105			***	1				1		

2011

FISCAL YEAR 1970 CUMULATIVE DISASTER STATISTICS (Cont'd)

COUNTRY AND DISASTER	NUMBER KILLED	TOTAL NO. REPORTED VICTIMS	FUNDS EXPENDED OR VALUE OF ASSISTANCE PROVIDED (IN THOUSANDS OF DOLLARS)						VOLAGS OTHER U.S. ASSIST-ANCE	TOTAL U.S. ASSIST-ANCE	REPORTED ASSIST-ANCE OTHER NATIONS	REPORTED ASSIST-ANCE HOST COUNTRY
			CONTINGENCY FUND		AID PROJECT OR OTHER US GOVT. FUNDS	FOOD FOR PEACE		DOD				
			BY AMB.	AID/W		GOVT. TO GOVT. OR TO WFP	BY VOLAGS					
			\$	\$	\$	\$	\$	\$	\$	\$	\$	
NESA (Cont'd)												
Turkey Earthquake 3/28/70	1,086	81,758	25	149	35	108	6	X	512	835	1,934	5,400
NESA TOTAL	1,151	1,133,863	26	149	36	3,346	6		514	4,077	2,373*	14,819*
EAST ASIA -												
Indonesia Famine 1969-1970	*	250,000	8				132		7	147	-	*
Korea Floods Sept. 1969	408	227,672	25	149	****275	1,945	40	X	104	2,538	649	1,836*
Korea Cholera 9/2-10/24/69	137	1,538	25	38	****587			X	17	172	15*	300
Laos Floods 8/15-21, 1969	-	-	25	10	*			X		35	-	*
Taiwan Typhoons Sept/Oct. 1969	194	40,194	13		****7		2	X		22	16	1,075
EAST ASIA TOTAL	739	519,404	96	197	374	1,945	174		128	2,914	680*	3,211*
TOTALS ALL REGIONS												
FY 1970	72,915	11,743,040	649	5,610	11,859	21,908	8,709		12,202	60,937	59,493*	96,595
5 FYS 1965-69	1,094,359	61,804,729	1,798	13,258	60,242	166,179	46,826		37,670	325,973	298,374*	3,702,829*
6-YR TOTAL	1,167,274	73,547,769	2,447	18,868	72,101	188,087	55,535		49,872	386,910	357,867	3,799,424
(Note - Included in No. Killed are 1 million estimated deaths for Nigeria Civil Strife in FY 69 Report) (billion)												

* Incomplete or not reported; ** CCC credit; *** US-owned local currency; **** DOD non-reimbursable assistance

	NUMBER OF DISASTERS					
	Africa	Europe	Latin America	NESA	East Asia	Total
Fiscal Year 1970	16	2	22	6	5	51
5 Yrs Fiscal 1965-1969	64	8	74	50	55	251
TOTALS	80	10	96	56	60	302

ALGERIA

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

DATE-TIME: September 28 through November 2, 1969

LOCATION: Northern Sahara region stretching across Algeria from east to west. Severe damage was predominantly in the east.

DISASTER VICTIMS:	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>	<u>Evacuated</u>	<u>Destroyed</u>	<u>Damaged</u>
	76	237	75,133	About 200,000		

DAMAGES:	Houses	14,681	16,147
	Bridges	36	107
	Roads (kilometers)	215	4,430
	Culverts	376	
	Fields	11,181	13,107
	Dates (quintals)	698,000	
	Livestock	15,486	
	Wells		3,109
	Agricultural Installations	86	
	Electrical Installations	92	
	Telecommunication Installations	20	
	Railroads	100	25



DESCRIPTION OF THE DISASTER:

The same storms that lasted for over a month and created so much havoc in Tunisia (see separate case study in this report) also brought many deaths and extensive destruction to northern and eastern Algeria.

Several rivers in northern Sahara reached their highest point since 1905. Homes, bridges, roads, communications lines, livestock, fields and crops were destroyed. Quickly rising water washed away thousands of sun-baked adobe brick houses. The victims did not have time to save their furnishings or their provisions for the winter. Some towns dissolved under pounding rain and hail. The Department of Aures was hardest hit.

Destruction to the following cities was severe: Constantine, Annaba, Oasis, Titteri, Tiaret and El-Asnam. The Algiers region was also affected. One area of major damage included Djelfa and oases towns south of Biskra. All roads in southern Aures were cut with the exception of the Batna-Biskra Highway. Djelfa (population 25,000) and Barika (population 15,000) were completely isolated and almost totally inundated. El M'Graier, Djamma and seven other villages were also under water. El Oued (population 15,000) was 80% damaged. New flooding the latter part of October left Touggourt under one and one-half to two feet of water, while Ouargla, capital of Oasis Department, was described in news reports as a "vast lake".



Titteri

The intermittent heavy rains ruined the eastern date crop, which is the major source of income for many families. Rain during this season of the year causes the sugar in the dates to ferment. Stored grain harvests were destroyed in some areas. The main road through the desert (RN3) washed out in 23 places. There were heavy losses in truck gardens and palm trees in Titteri Department.

More than four weeks after the first torrential rains triggered flooding, the Department of Aures was still locked in a weather cycle of fog, drizzle, cold and occasional violent rain squalls.

Stagnant flood waters increased the insect population to such an extent that fears of malaria, typhoid and trachoma epidemics were being expressed.

With the prolonged misery and suffering of the flood victims, health authorities also expected problems with pneumonia and possibly tuberculosis.



Housing destruction

ACTION TAKEN BY THE GOVERNMENT OF ALGERIA AND LOCAL ORGANIZATIONS

Interior Ministry representatives flew to the flood areas to inspect the situation on September 28. Immediately following on September 29 an airlift was started to bring communications and aid to isolated communities. The Ministry of Interior, Ministry of Labor and Social Affairs, National Defense, and local authorities were involved in extensive relief operations. All assistance for the flood victims, including that made directly by the Government of Algeria, was channeled through the Algeria Red Crescent.

The Algerian Red Crescent appealed to all foreign voluntary agencies in the country for food, medicines and for help from foreign governments, especially for tents and blankets.

The Ministry of Health sprayed houses and tents with insecticides and aerial spraying of mosquito breeding grounds was undertaken by the Algerian Army. Ten mobile medical teams were sent to the flood areas to



Flood Victims

treat the wounded and to administer inoculations to prevent epidemics. Typhoid shots were declared obligatory for all the homeless who were in danger from polluted water supplies.

On October 30, local authorities in eastern Algeria launched a door-to-door collection campaign to solicit money, food and blankets. The newspaper "El Moudjahid" launched an editorial appeal for all Algerians to aid in reconstruction. The Government constituted specialized committees to study means to be employed and to lay down a national plan of action for reconstruction of villages. Each citizen was to be asked to contribute to reconstruction by donating one day's pay and for non-wage earners a special tax was planned. The stricken population was called upon to themselves repair the damages caused by the floods. The population in the disaster zones were exempted from taxes and loans were extended to cover rebuilding costs.

Government of Algeria short term recovery efforts consisted of restoring blocked communications and erection of temporary housing. Long term reconstruction was discussed which would involve the relocation of new housing out of the low ground and use of baked brick construction. However, it was noted that such an effort would be hampered by the fact that date groves and workers houses must, of necessity, be located in oases which are always found in low-lying areas.

The Government anticipated adoption of a full employment program in agriculture and construction that would bring populations in the flood areas back to work.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

The U. S. American Affairs Section for Algeria at the Swiss Embassy in Algiers was requested by the Algeria Foreign Office and Algeria Red Crescent to provide tents and blankets for the flood victims and otherwise aid in emergency relief. AID/Washington approved expenditures of up to \$75,000 from the contingency fund worldwide disaster relief account for this purpose. Following are reported expenditures to date:

Purchase 125 tents	\$10,781.25	
Airlift TWA to Rome	3,795.00	
Purchase 200 tents	16,700.00	
Airlift TWA to Frankfurt	5,674.00	
Purchase 2,016 cotton blankets	3,669.12	
Airlift via Airlift International and Air France	4,956.56	
Airlift costs paid to USAF, Scott AFB	2,848.00	
Airlift charges paid by AID for donated CRS supplies	3,659.40	
Airlift CARE supplies	1,000.00	
Cash to Algerian Red Crescent in dinars	<u>5,542.60</u>	\$ 58,625.93

The following P.L. 480 food was provided through CRS and CARE:

<u>Thru CRS</u>		
2,042 tons flour)	
486 tons NFD milk)	
41 tons cornmeal	)	\$423,000
136 tons vegetable oil)	
41 tons rolled oats)	
 <u>Thru CARE</u>		
6,000 tons wheat)	
250 tons oil	)	<u>\$380,000</u>
20 tons NFD milk	)	<u>\$803,000.00</u>

TOTAL USG CONTRIBUTIONS \$861,625.93

In commenting on the USG assistance the Embassy said: *"The tents, which were delivered by air, were one of the very first donations from any source received in Algeria; provided immediate shelter from the rains (which continued over a six-week period) and will continue to serve until housing can be rebuilt. The food supplies, which constituted the bulk of the*

American aid, replaced destroyed food stocks. The location of the food-stuffs in warehouses near the stricken areas allowed distribution to begin almost immediately. Damaged communications facilities make it unlikely that the needy populations could have been reached from other sources. Hence the U. S. effort can be credited with alleviating a potentially catastrophic situation."

Letters and other expressions of appreciation were received from the Algerian Red Crescent and the Foreign Office.

When the first planeload of tents arrived in Algiers after being picked up from TWA in Rome by U. S. military aircraft, it was met by Red Crescent officials. The Embassy commented as follows: *"Red Crescent officials welcomed plane, which created dramatic effect at airport, where Libyan, Kuwaiti and Iraqi planes also had landed with relief supplies. Officials expressed warm appreciation for tents and entertained crew to drinks in terminal. USAF uniforms are rare and welcome sight here. This mission most appreciative of teamwork behind this delivery."*

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES

American Red Cross - cash contribution	\$ 5,000
Catholic Relief Services - in addition to furnishing USG P.L. 480 food commodities provided from its own resources: 50 tents, 1500 blankets, 8 cartons medicines..	9,811
CARE and CARE/MEDICO - in addition to USG P.L. 480 food commodities provided from its own resources:	
1,000 blankets.....	\$3,000
3 tons soap.....	*
20,000 tablets Aralen (malaria suppressive), 325,000 halazone tablets, 500,000 aspirin tablets, 91,000 vitamin pills, 25,000 doses anti-diarrhetic medicine, 15 cases cough syrup, DPT vaccine, valued at ...	4,500
Cash donation	<u>5,000</u> 12,500
Mennonite Central Committee - cash donation for purchase of blankets	<u>6,000</u>
	<u>\$33,311</u>

Algerian semi-official statement concerning U. S. voluntary agencies' contribution: *"At the Ministry of Social Affairs and Labor, there is great appreciation for this substantial aid which is evidence of humane solidarity of the American people for the suffering people of Algeria."*

ASSISTANCE PROVIDED BY OTHER NATIONS

The League of Red Cross Societies reported the following:

Australia - cash	\$	1,100
Austria - cash and supplies		4,650
Belgium - antibiotics and children's food		1,390
Bulgaria - supplies		7,540
Canada - Red Cross--cash for blankets, clothing..	\$15,720	
Government--cash	<u>13,950</u>	29,670
Czechoslovakia - supplies		14,000
Denmark - Red Cross--cash	\$ 3,310	
Red Cross and Government--cash		
for tents	<u>6,780</u>	10,090
Finland - cash and supplies (blankets, food, clothing)		18,640
France - blankets, other supplies		7,800
Germany, Dem. Rep. - supplies (blankets, tents, antibiotics)..		41,060
Germany, Fed. Rep. - supplies (blankets, clothing)		53,200
Great Britain - Red Cross, OXFAM, Save the Children,		
Christian Aid, and War on Want--supplies		46,820
Hungary - supplies		11,620
Iran - cash		10,000
Iraq - supplies		28,180
Italy - Red Cross--blankets, clothing, medicaments	\$77,770	
Government--supplies	<u>19,870</u>	97,640
Japan - supplies		980
Jordan - cash		280
Kuwait - cash		2,800
Lebanon - cash		300
Monaco - cash		260
Morocco - clothing, blankets, milk, sardines		58,000
Netherlands - cash and supplies		9,980
Norway - Red Cross--supplies	\$ 7,900	
Government--cash	<u>5,830</u>	13,730
Poland - supplies		4,040
Romania - supplies		8,370
South Africa - cash		270
Spain - tents, blankets, food		5,030
Sweden - Red Cross--clothing, blankets, medicaments,		
soap, kits	\$218,900	
SIDA--supplies	<u>4,850</u>	223,750
Switzerland - Red Cross--supplies	2,790	
Red Cross and Government--supplies..	22,600	
Red Cross and Caritas	1,460	
Schweizerisches, Arbeiterhilfowerk--		
supplies	<u>1,150</u>	28,000
Syrian Arab Republic		790
Turkey - supplies including blankets		10,830
USSR - supplies		27,900
United Arab Republic - supplies		3,600
Yugoslavia - supplies		3,780

International Committee of the Red Cross - supplies	\$ 5,230
UNESCO Staff Association - cash	<u>350</u>
TOTAL ASSISTANCE PROVIDED BY OTHER NATIONS	\$791,670

World Food Program experts met October 24 with Government of Algeria officials and representatives of U. S. voluntary agencies to discuss further relief assistance. It was proposed that voluntary agencies' carry the brunt of immediate disaster relief during approximately the next six months using USG P.L. 480 food stocks already released for flood use, leaving WFP to use resources in Food for Work program aimed at longer term reconstruction.

BOTSWANA

CHARACTERISTICS OF THE DISASTER

EVENT: Drought/Famine

DATE-TIME: 1969

DISASTER People Requiring Emergency Feeding
VICTIMS: 87,600

DESCRIPTION OF THE DISASTER:

As a result of continued drought in Botswana, the World Food Program established a food-for-work project to continue for a period of six to eleven months to benefit 87,600 people in the affected area.

ACTION TAKEN BY THE GOVERNMENT OF BOTSWANA AND LOCAL ORGANIZATIONS:

Not reported

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The U. S. Government was asked by the World Food Program to donate the following P. L. 480 Food for Peace commodities, which was approved by AID:

15,529 metric tons of cornmeal and nonfat dry milk, valued at	\$1,878,000
Estimated ocean freight charges	<u>775,000</u>
	\$2,653,000

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

The World Food Program set up the above mentioned food-for-work project but information on the project other than the commodities furnished to WFP by the U. S. Government was not available.

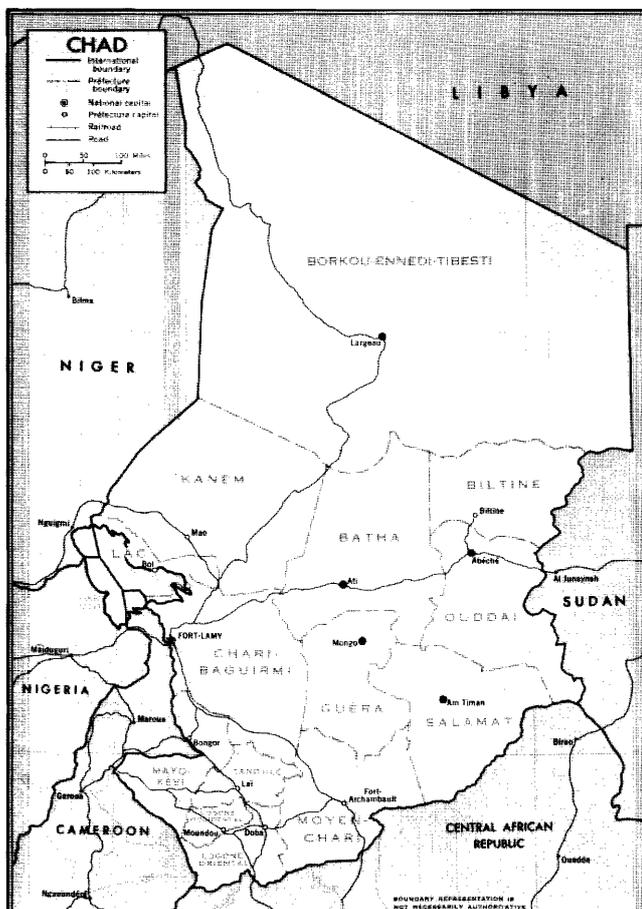
CHAD

CHARACTERISTICS OF THE DISASTER

EVENT: Food Shortage
DATE-TIME: Summer/Fall 1969
LOCATION: Central, Eastern and Southern Sections
DISASTER VICTIMS: People Requiring Emergency Food
187,500

DESCRIPTION OF THE DISASTER:

In late August, 1969, famine conditions were first reported to the U. S. Embassy by the United Nations Resident Representative in Fort Lamy.



The first rains came very early in 1969 and farmers, in hopes of an early growing season, commenced their plantings. However, after a few days the rains ceased and did not recommence until several weeks after their normal time. They then continued through the early days of October by which time they would normally ended. Roads were not open and trucks could not move to replenish food stocks, levels of which were lower than usual due to the early planting and resulting anticipation of an early harvest. Since early plantings were affected by both unseasonal drought and rains, food supplies became critical.

From the time of first reports of severe food shortages to October, the United Nations representative provided 30 tons of food and

medicines and chartered Air Tchad aircraft for delivery. Planes used were DC-3s and DC-4s with carrying capacities of 2.5 to 4 tons, respectively. Since these were available only on a short-term basis and had limited capacities, they were inadequate. In early October, the UN Resident Representative purchased another 200 tons of food but had no funds with which to charter aircraft.

ACTION TAKEN BY THE GOVERNMENT OF CHAD AND LOCAL ORGANIZATIONS:

When the United Nations representative indicated they had no more funds with which to charter airlift for these 200 tons of food, the Government of Chad requested French and German officials in the country to provide planes. The Germans received no decision from their government. The French transported 36 tons of food and could not deliver more because of lack of funds and also because of the limitations on the number of hours which could be flown each month.

The Government of Chad requested that the United States bring in needed aircraft for delivering the rest of the UN-donated food--164 tons. To insure that the food went only to the needy and did not end up on some



Loading food grain for delivery

merchant's shelves, the Government of Chad established distribution committees in each town receiving food aid. The Minister of Coordination at the Presidency was responsible for arranging for the airlift. He promptly dispensed with many of the formalities, arranged for blanket clearances, waived visas and passports for aircraft personnel, dispensed with landing and parking fees, granted immunities and authorized photography.

However, he took advantage of the first flight to go to Bardai on a mission and remained away from Fort Lamy until the end of the week. He was sorely missed when problems developed in finding trucks to bring the food to the airport and in obtaining laborers to load the aircraft. Finally,

with assists from the Minister of Health, United Nations representative and the French military, the foodstuffs were delivered to the airport where the US planes were loaded and flown to isolated areas. In-country donations amounted to \$3,663 and the cost to the Government of Chad for vehicles, equipment and laborers was \$2,745.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

After receiving the Government of Chad's request on October 7 for airlift of the UN-donated food, the Ambassador called a special meeting of the country team to discuss the situation. Members agreed the food shortage was serious and that the US should give assistance, as appropriate. On October 8, the Ambassador declared Chad a disaster area and cabled AID/W asking that arrangements be made for the use of two C-130s. AID/DRC contacted the Department of Defense to determine availability of planes and obtain cost estimates. When DOD advised it could provide two C-130s, AID/DRC immediately initiated funding documents against the Washington worldwide disaster relief account to permit reimbursement to the U. S. Military for the airlift from the AID contingency fund.

The following day, October 9, AID/W advised the U. S. Mission the planes were coming. Contained in a subsequent cable from the Mission was the following: *To us who are accustomed to the usual prolonged delays of bureaucracy, the rapidity with which the decision was reached and put into effect in Washington was astounding. The post is deeply appreciative to all of those who contributed to it.*

Aircraft from the U. S. Strike Forces Command (Dyess Air Force Base, Texas) arrived on October 12. During the week of October 12-18, the two C-130s delivered 164 tons of food in 16 sorties, which required 43.2 flying hours and covered some 8,960 miles. Cost of the airlift was \$42,103 plus per diem and travel expenses of the US Military crews and related costs amounting to \$8,958 for a total chargeable to the AID contingency fund of \$51,061.

The office of the Defense Attache in Chad assisted in the planning and execution of the mercy mission. Major Allan S. Gindoff and Major John X. Payne took on the advance operational planning in order that the airlift could start on the morning of October 13. Major Gindoff persuaded the French Military to supply the only forklift, without which the loading of the aircraft would have been delayed. Major Payne supervised activities on the flight line and made sorties with the aircraft to perform liaison duties with local officials at the various points of delivery in the country. The staff of the Attache Office also helped with communications, loading operations, flight line activities and local liaison. The C-47 Attache aircraft assigned to the American Embassy had previously delivered emergency food to Mongo, which was the first tangible demonstration of American concern. Other points of delivery were: Abeche, Am timan, Ati, Bardai, Faya Largeau, Fada, Zouar.

The American Ambassador designated John P. Blane, Counselor of the Embassy, as Coordinator. He was involved in virtually every aspect of the

relief operation. USAID personnel Roy A. Harrell, Jr., and Irving H. Licht, flew in the aircraft to assist with communications and coordination in some of the villages. A cable from the American Embassy in Chad included the following statement: *The speed and efficiency with which this crisis was met were remarkable, and we appreciate it. A special word of thanks is due to CINCSTRIKE and the personnel of Mercy Mission Chad, who are deserving of the highest commendation. The performance of the flight and ground crews was superior in every respect.*

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

United Nations - 230 tons of food, value not reported but AID/DRC estimated it to be approximately \$15,000

France - The French Military participated in relief operations and provided a forklift and operator at a cost of 905
\$15,905

USAID commented as follows on the assistance given by the French Military: *Mercy Mission Chad received superb cooperation from the French Military, who supplied the only operable fork lift in Fort Lamy, which was essential to the loading of the airplanes, as well as soldiers and airmen to aid with the other manual tasks on the flight line. The French Quartermaster even produced excellent French flight rations to give the flight crews a change from the American combat rations.*

ETHIOPIA

CHARACTERISTICS OF THE DISASTER

EVENT: Drought

DATE-TIME: 1969

LOCATION: Hamasion Division, especially the city of Asmara

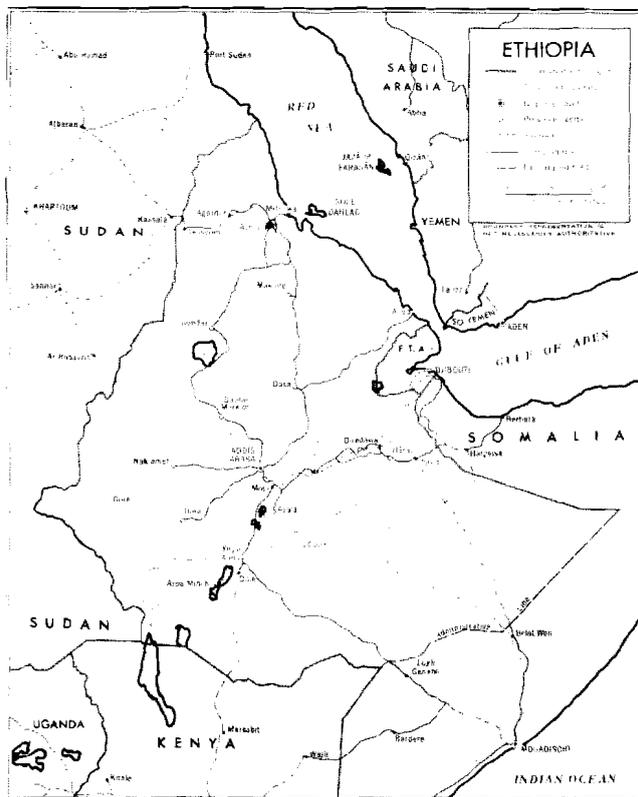
DISASTER VICTIMS: People Affected
1,700,000

DESCRIPTION OF THE DISASTER:

The accumulated effects of several years of below-normal rainfall, including extremely meagre precipitation in 1969, brought about a severe drought situation in much of Ethiopia's northern province of Eritrea. The most

critical area was along the eastern edge of the Eritrean plateau in the Hamasion Division, particularly in and around Asmara, the second largest city in Ethiopia. Asmara is a growing city, dependent for its water supply on inadequate wells and a system of small reservoirs--little more than catchment basins--which are located near the city. The spotty and insufficient showers in July and August of 1969 failed to fill in the catchment areas and, thus, by September the city faced nine or ten months of sunny, dry weather with virtually no water in the city reservoirs and only small amounts in those owned by SEDAO (the electric power company).

The severe drought meant an increased use of polluted water by the population which raised fears there might be major out-



breaks of contagious water-born diseases such as typhoid and various forms of dysentery.

The drought also had serious economic and sociological consequences. The water shortage curtailed the operations of several major local industries, and the short-fall in the year's grain harvest further discouraged the already uneasy Asmara business community. The poor people in Asmara, living in crowded areas without running water, suffered most from the shortage of water. These people had to depend on buying their water from private vendors and, even though there were Government price controls on water, they were vulnerable to profiteering. Health problems were also greater for this segment of the population.

ACTION TAKEN BY THE GOVERNMENT OF ETHIOPIA AND LOCAL ORGANIZATIONS:

Municipal and provincial authorities acted energetically to combat the problems caused by the drought. Under the general leadership of the Vice Governor General of Eritrea, informal committees were formed to deal with both the hydrological and public health aspects. When necessary, policy questions were referred to the Governor General.



Asmara school children being inoculated against typhoid

The authorities conducted an extensive campaign in the local mass media promoting both water conservation and public health measures. Local authorities, on their own initiative, carried out a typhoid immunization program for approximately 350 food handlers as soon as the gravity of the situation became apparent. Price controls were placed on water sales.

Some black marketing of water occurred but the problem did not become too serious. Tank trucks were hired by the municipal authorities to haul water from newly-developed sources along the headwaters of the Mareb River and its tributaries. Several new wells were dug in the municipal well fields. Work was intensified on the new municipal dam and reservoir then in construction at Mai Nefit, about 15 kilometers from Asmara. Nearly \$1 million of the Italian Government's loan to Ethiopia was approved for use in the Mai Nefit dam project. It was anticipated the dam would be sufficiently completed to catch the "small rains" in March, April and May of 1970.

Local disaster relief operations were generally effective. Assistance requested from the U. S. Government began with pumps and technical help in the typhoid immunization program. As the drought continued and food shortages became serious, grain was requested from the United States to help feed 1.7 million people.

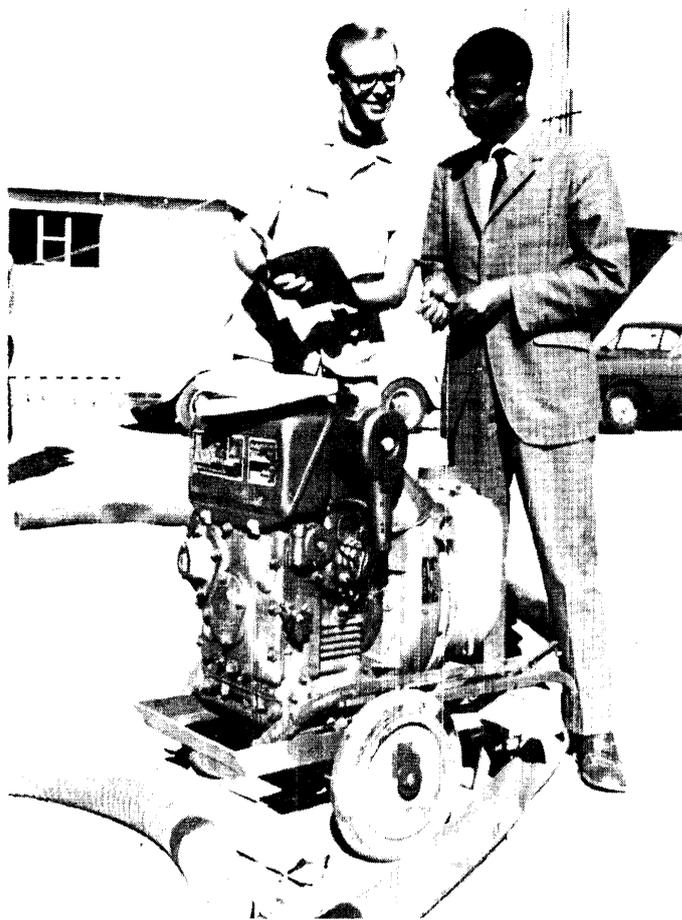
ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

On August 23 the Governor General of Eritrea advised the U. S. Consul that the water shortage in Asmara was critical and with the prior approval of the Emperor requested U. S. Government help. On August 28 the Emperor raised the subject with the American Ambassador. The Ambassador instructed the chiefs of the various US agencies in Ethiopia to take appropriate action. From August 26 on personnel from USAID, the U. S. Naval Medical Research Unit No. 3 (NAMRU) and the U. S. Navy Preventive Unit No. 7 initiated studies to determine the precise nature and extent of the emergency in order to recommend necessary action to increase the supply of water and prevent health deterioration.

As a result of these studies, the Ambassador determined on September 12, 1969, that a disaster existed which threatened to be of sufficient severity and magnitude to warrant US emergency assistance.

A USAID hydrologist, in cooperation with Ethiopian officials, prepared a plan of action which was implemented. It called for rehabilitating a number of existing wells and locating a number of sources outside the city from which water could be transported. In carrying out this plan USAID made available the services of its hydrologist and 14 pumps.

In the public health sector, the plan called for maintaining close surveillance of the situation and for typhoid inoculations on a limited basis. To implement this program, USAID, with the assistance of the US Army Communications Station, Asmara (Kagnev Station) purchased 40 litres of vaccine, one jet injector gun and limited amounts of medicine and laboratory equipment. Two US Navy personnel utilizing foot operated jet injectors, inoculated approximately 40,000 school children and approximately 13,000 food handlers and other service people. Also the US Navy Bureau of Medicine and Surgery provided the services of one sanitarian and one bacteriologist to conduct and train Ethiopian personnel in a continuing bacteriological surveillance program.



One of the pumps provided by the USG

Kagnew station also promoted water conservation and increased public health awareness through the Armed Forces radio and television programs and articles in the post newspaper. These broadcasts reached an important segment of the local population. The post ceased drawing water from the municipal aqueduct and imposed strict rationing on all personnel and dependents living on the post. The USAF meteorologist at Kagnew worked closely with Ethiopian counterparts, assisting in weather forecasting and advising on the feasibility of cloud seeding.

A U. S. Department of Agriculture Entomologist serving as Chief Advisor to the Desert Locust Control Organization for East Africa (DLCOEA), provided technical assistance and conducted a few cloud seeding operations with DLCOEA aircraft.

Twenty-five thousand dollars of FAA contingency funds were authorized by the Ambassador for emergency assistance. These funds were used for:

** Purchase of 14 pumps	\$14,000	
Purchase of typhoid vaccine	2,000	
For medicine, lab equipment and a jet injector gun	1,500	
Balance for travel and per diem of US Navy medical and health personnel	<u>7,500</u>	\$25,000

** Approximately \$6,000 of this money was in US dollars and \$19,000 in local currency equivalent.

At the conclusion of the water emergency the pumps were to be used in other approved projects or returned to the U. S. Government.

The U. S. Government also donated 5,000 metric tons of P. L. 480, Title II, grain with a market value, including ocean freight, of..... \$615,000

Total USG Contribution.....\$640,000

Comments by US Mission on US Assistance

Technical assistance on both the hydrological and public health aspects of the drought has been the most successful part of the U. S. Government relief effort. Local authorities were willing and did in fact make determined efforts to alleviate the water shortage but lacked the technical expertise and monetary resources required to organize an effective program. Perhaps the most successful aspect of the US assistance, at least in terms of visibility, was the typhoid inoculation program conducted by U. S. Navy personnel.

USAID personnel have been effectively utilized throughout the emergency. Particular mention should be made of the technical assistance provided by Mr. James R. Jones, USAID hydrologist in Addis Ababa. In his brief visits to Asmara, Mr. Jones established close rapport with Municipal and Provincial authorities. With considerable tact he convinced the local authorities to accept his recommendations and greatly assisted in organizing the relief efforts.

The US assistance and the strict water rationing imposed by Kagnew Station on its personnel have avoided any hint that the conspicuous American community in Asmara was using excessive amounts of the city's scarce water supplies.

On February 1, 1970, the U. S. Navy Medical Research Unit No. 3 and U. S. Navy Preventive Medicine Unit No. 7 submitted a report titled "Concluding Phases of a Study on Water Supply Sanitation and Water-Borne Disease in Asmara, Ethiopia". The report reviewed the problems and actions taken and concluded with:

The administrators and technicians of the Eritrea Provincial Public Health Department and the Water Supply Section of the Municipality of Asmara possess the basic training and experience necessary to support a program of water sanitation. They now have the capability to protect the people of Asmara from water-borne disease. The factors required to take advantage of this capability are mutual trust, understanding and patience. By working together in a cooperative team effort, the Public Health Department and Water Supply Section can build and maintain a model operating potable water supply system. A program to establish and maintain a model water treatment system must consist of at least the following points:

- (1) Adequate treatment and chlorination of all water used by the people of Asmara.*
- (2) Discovery and correction of sources of contamination.*
- (3) Water treatment plants: Routine weekly inspection, sampling, and testing for bacteria, chlorine, and PH.*

- (4) *Municipal water distribution system: Routine weekly sampling and testing of all established sampling points throughout the system for bacteria, chlorine, and PH.*
- (5) *Licensing, chlorination, and testing of all water delivery trucks.*
- (6) *Complete and prompt weekly reports sent early in each week to the Governor General, the Lord Mayor, and the Water Supply Section. Extra copies should be available for distribution to the technicians involved as required for corrective action.*
- (7) *Continuing training and testing of water plant operators.*

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None Reported

ASSISTANCE PROVIDED BY OTHER NATIONS:

The West German Government supplied approximately 6,250 kilograms of evaporation retardent for use on one of the power company's reservoirs. Cost of retardent and airlift from Hamburg was approximately \$15,000.

MALAGASY REPUBLIC

CHARACTERISTICS OF THE DISASTER

EVENT: Cyclone "Jane"

DATE-TIME: February 23-24, 1970

LOCATION: Provinces of Tamatave, Fianarantsoa and Tulear

DISASTER VICTIMS/ DAMAGES:

	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>
	70	17	10,000

Houses Destroyed
41,088

Estimated Dollar Damage

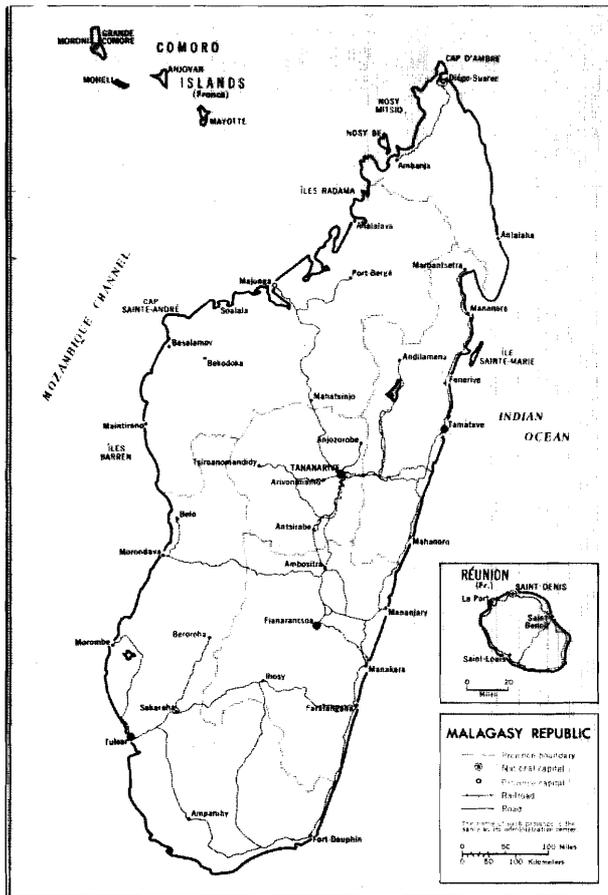
Housing	\$1,255,276
Other buildings	107,175
Roads/bridges	2,918,360
Crops	<u>7,083,359</u>

DESCRIPTION OF THE DISASTER:

Cyclone "Jane" hit central and southern Madagascar over the weekend of February 22-24. High winds, accompanied by heavy rains, brought destruction to houses, roads, bridges and crops. The disaster occurred in approximately the same area that was hit so hard last year by Cyclone "Dany". The Nosy-Varika regions, which had been rebuilt after being destroyed by "Dany", was again left in ruins.

ACTION TAKEN BY THE GOVERNMENT OF MALAGASY REPUBLIC AND LOCAL ORGANIZATIONS:

A National Disaster Relief Committee, presided over by the Minister of State for the Interior, was formed as soon as the cyclone struck. This committee met daily in order to determine measures to provide emergency relief for the disaster victims. These measures included medicines parachuted





One of the flooded areas

because "Jane" followed two other cyclones which had hit Madagascar earlier in the year and "Dany", a major cyclone, which had struck the country last year. Also the Government's first estimate of damages proved to have been well below the actual damages inflicted by the cyclone.



Cyclone flood victims

to some isolated communities and food to others. Seeds, clothing, candles and blankets were also distributed.

The main problems encountered by the Government in bringing in relief supplies were caused by disrupted communications and transportation lines. Many telephone lines were damaged and roads and bridges had been washed away.

The Government made an appeal for contributions for the victims. This appeal was rather low key

Value of donations from the private sector in the country was \$143,679. Republic of Malagasy contributions were valued at \$60,000. Total in-country assistance amounted to \$203,679.

**ASSISTANCE PROVIDED BY
THE U. S. GOVERNMENT:**

The American Ambassador exercised his disaster relief authority and offered 2 million Malagasy francs, which is equivalent to \$7,220, for use in reconstruction. This was

accepted by the Republic of Malagasy Government. When it was determined how this money would be used, the check was presented to Minister Resampa, President of the Comite Nationale de Secours aux Sinistres, on June 10. He advised that the following buildings would benefit from the U. S. assistance: the Farafangana hospital and the primary schools in Anosivelo, Bevoay and Beraraoka.

USG P. L. 480 food commodities were provided through Catholic Relief Services as follows: 6,353 pounds of nonfat dry milk; 17,244 pounds of flour; 7,117 pounds of vegetable oil. Estimated market value - \$3,203.

Total USG Contributions.....\$10,423'

The Mission recommended that in the future US disaster relief assistance be in disaster supplies rather than money.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services

Distributed above P. L. 480 Food for Peace commodities.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

France - Government - cash	\$10,830	
Red Cross - supplies	970	
Paris Municipal Council - cash	<u>1,805</u>	\$ 13,605
Switzerland Red Cross and Government - cash		7,200
United Kingdom - rice, milk, medicines		5,880
Vatican - cash		1,805
Ligue d'entraide de la Reunion et Maurice - cash		360
World Council of Churches - cash		<u>5,000</u>
		\$ 33,850

The US Mission reported that most donations were in the form of money; that the British flew in medicines and food and the impact of their donation was greater and more direct.

MALI

CHARACTERISTICS OF THE DISASTER

EVENT: Drought
DATE-TIME: Summer 1969
LOCATION: Northern Mali
DISASTER VICTIMS: Increased Number of People Needing Food Aid
840,000

DESCRIPTION OF THE DISASTER:

This was not a new disaster but a continuation of that which was reported in the Ninth Report. However, a new emergency arose in connection with timely distribution to the people in need. Also, there was an increase in the number of people who needed help from 660,000 to 1,500,000.

ACTION TAKEN BY THE GOVERNMENT OF MALI AND LOCAL ORGANIZATIONS:

The Government of Mali estimated it would cost \$520,000 to meet all the internal food distribution costs. It indicated to the American Embassy it was hard pressed to find sufficient money to meet all of these costs and requested that the USG provide some funds to help them carry out distribution of the urgently needed food.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The American Ambassador determined that conditions warranted US assistance. Under his disaster relief authority he donated from the AID contingency fund the sum of \$25,000 to help the Government of Mali defray distribution costs. This authority was exercised on June 14 in FY 1969 but was not reported to AID/DRC or the AID Controller until September 1969. Therefore the funds used were obligated in FY 1970.

Also, the original Title II grant of 15,000 metric tons of P. L. 480 Food for Peace grain was increased to 15,800 tons. This added \$227,800 to the export market value of the USG food donation and increased the ocean freight cost by about \$30,000 for a total additional value to that which was reported in the Ninth Report of \$257,800.

Total new USG assistance for the Mali Drought.....\$282,800

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None Reported

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS - None

MALI, NIGER, NIGERIA, UPPER VOLTA

CHARACTERISTICS OF THE DISASTER

EVENT: Yellow Fever - Actual or Threatened Epidemics

DATE-TIME: October 1969 - April 1970

LOCATION: West Africa (especially above countries), but also Ghana, Dahomey, Angola, Congo (B), Sierra Leone and Sudan affected.

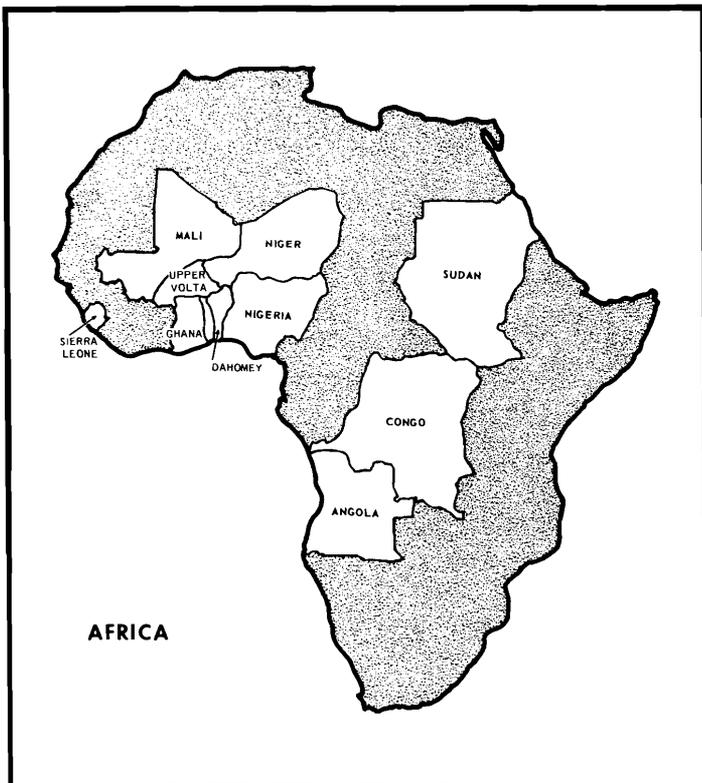
DISASTER VICTIMS:	Cases	Deaths	Country
	Estimated up to 80,000	Estimates ranged from 2,000 to 10,000	
	130 at least *	130	Nigeria
	23	13	Upper Volta
	5	2	Mali
	1	1	Niger
	5	3	Togo
			Ghana

* Total cases not available

DESCRIPTION OF THE DISASTER:

On October 27, the American Consul at Kaduna, Nigeria, reported at least 19 deaths due to presumed yellow fever. Subsequently the outbreak worsened in Nigeria and reports began to come in of cases appearing in nearby countries of Upper Volta, Niger, Mali, Ghana and Dahomey. Later cases were also reported in Angola, Congo (B), Sierra Leone and Sudan. In some of these the incidence of the disease was not great, but concern over its spread caused the governments of these countries to initiate preventive inoculation measures and to request U. S. assistance.

Yellow fever is a highly fatal disease. It is transmitted by the bite of a mosquito in the same way as malaria. It has



no known effective treatment once a person is infected. It has a very high case fatality rate which is increased in the presence of malnutrition when it may reach levels over 75%. Fortunately, there is a most effective vaccine for its prevention which can be administered by a jet injector.

ACTION TAKEN BY LOCAL GOVERNMENTS AND ORGANIZATIONS:

NIGERIA

Local Nigerian health authorities initiated control procedures. Assistance was sought from the Sudan Interior Mission, the World Health Organization and the U. S. Government. An inoculation program was established. In addition to vaccine donated by WHO and the USG, the Government of Nigeria purchased 505,000 doses at an estimated cost of \$20,200 and also obtained insecticide and spraying equipment.

The outbreak in Nigeria was extensive, involving primarily Plateau Province of Benue-Plateau State, but also extending as far south as Gboko and into adjacent areas of the North Central and North Eastern States.

Plans for Future Preventive Measures

The Federal Ministry of Health indicated it would adopt the following courses of action:

- (1) Start vaccination program prior to the onset of the next rainy season in the entire area known to have been involved in the yellow fever outbreak.
- (2) Request assistance from WHO to carry out epidemiological and entomological investigations in accessible areas of the former Eastern Region in order to verify tentative conclusions about the source of the epidemic and methods of transmission.
- (3) Initiate vaccination programs for the populations of Nigeria's two major international cities (Lagos and Kano) in order to forestall the possibility of their being closed due to reports of an outbreak.
- (4) Proceed to vaccinate all military personnel through use of Nigerian Army Medical Services and use of military funds.

UPPER VOLTA

The Government of Upper Volta sought assistance from the U. S. Government, the Government of France and the World Health Organization to control the outbreak and to prevent a future outbreak. In addition to vaccine provided from these outside sources, the Government of Upper Volta obtained 500,000 doses from the Pasteur Institute at Dakar at a cost of approximately \$20,000. The Government of Upper Volta carried out a vaccination

program with the assistance of the USG smallpox measles program of USAID. The Upper Volta Government used up to 14 public health teams augmented by military personnel. These health teams had been trained in the use of jet injectors by U. S. technicians. Spraying and vaccination were carried out within a 25-mile radius of Ougadougou where half the cases were reported, in areas along Ouahigouya-Ougadougou-Po road, the vicinity of Tenkodogo in the southeast and Yako in the northwest and along Ghana, Togo, Ivory Coast, Dahomey, Mali frontiers. The Government of Upper Volta also provided 15 trucks with supporting equipment and necessary fuel.

It was planned to continue the vaccination program to prevent future outbreaks but because of limited funds the Government of Upper Volta sought outside help from France, Germany and the United States.

MALI

The Government of Mali requested and received vaccine from the United States, France and the World Health Organization. It was not reported whether the Mali Government itself provided any vaccine. A vaccination and spraying program were established. All persons entering Mali from Upper Volta were vaccinated at five established roadblocks. Strategy for control within Mali consisted of:

- (1) Vaccination of entire population of 13 villages in which cases were reported.
- (2) Vaccination of entire population of arrondissements of Negula and Kati near Bamako
- (3) Vaccination of five arrondissements surrounding the two affected ones and the City of Bamako. Population of these areas is 300,000.

The Government of Mali sent three vaccination teams to Kati to vaccinate the entire population on November 19. They then proceeded to the thirteen village outbreak area.

The USAID Measles Smallpox Program assisted the Minister of Health with truck transport for the three teams, refrigerators and jet injectors. The Ministry of Health also initiated an aerial spraying program for the town of Kati and the outbreak area around Faladie. Equipment and technical advice of the international locust control organization were used in the aerial spraying program.

NIGER

Concerned over the reports of yellow fever in Nigeria and Upper Volta and its possible spread to Niger, the Government of Niger requested assistance from the United States, France and World Health Organization in obtaining vaccine to carry out a vaccination program as a precautionary measure. Niger clamped down strict vaccination certificate control on its southern and western border posts and proceeded with inoculations in major cities. Smallpox-Measles program teams were used to administer the vaccine but were not diverted from their normal vaccination plan.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

AID Disaster Relief Funds are not used for prevention or control of contagious diseases. Ambassadors may, however, exercise their authorities and approve the use of AID contingency funds up to \$25,000, if they determine that conditions warrant disaster assistance to forestall an epidemic.

This was done for the yellow fever outbreaks in Mali, Niger and Upper Volta. In Nigeria, USG assistance came from supporting assistance funds for the Relief/Rehabilitation Program in that country under a special health project.

AID Disaster Relief allocations toward the control of the yellow fever were mainly for vaccine with a small amount being used in Upper Volta for chemicals for treating water and for spraying. Also, use of the Measles/Smallpox teams to assist in the use of available vaccine and to train local personnel was permitted in Nigeria, Togo and Upper Volta. However, there was explicit instruction that such diversion of action must **not interfere** with the smallpox eradication program. Also an epidemiologist from the US National Center for Disease Control assisted as did a Peace Corps physician and Peace Corps volunteers. Value of USG contributions by countries follows:

<u>Country</u>	<u>Amount of Vaccine</u>	<u>Other Supplies</u>	<u>AID Disaster Funds</u>	<u>AID Project Funds</u>
Nigeria	2,000,000 doses			\$115,000
Upper Volta	300,000 doses	Chemicals	\$ 55,942	
Niger	60,000 doses		8,973	
Mali	100,000 doses		26,050	
			<u>\$ 90,965</u>	<u>\$115,000</u>

USAID attempted to arrange with the World Health Organization and West African countries for a conference on yellow fever to work out a coordinated approach for averting subsequent outbreaks of the disease. This conference was suggested for mid-February. There followed other proposals by Upper Volta and Congo/Brazzaville that it be held in March or April. Finally it was decided that it would be held in May during the World Health Assembly. At this meeting, it was planned to examine the problem of aid to West African countries on yellow fever and to define the role of each "contributory organization as well as advice to be given to interested African states". (See section below under World Health Organization.)

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES: None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

The World Health Organization

WHO provided 20,000 doses of vaccine to Nigeria; 100,000 to Upper Volta; 20,000 to Mali; 20,000 to Niger. Approximate cost to WHO.....\$6,400

WHO also made available a vaccination team, one entomology team, one epidemiology team, three vehicles and fuel for Upper Volta. Information on full extent of WHO assistance to other countries was not available.

At the World Health Assembly, Resolution 23.34, dated May 19, 1970, was passed. The recommendations in the resolution are quoted below:

- (i) *that each country in the yellow fever endemic areas of Africa should establish a scheme for the immediate investigation of suspected cases and for rapidly informing WHO;*
- (ii) *that the health authorities of the countries in the endemic areas of Africa should with all possible speed and without waiting for further cases to occur, establish effective vaccination programmes in co-operation with neighbouring countries in the following order of priority:*
 - (a) *immediate vaccination of presumed susceptible age-groups in districts peripheral to areas where epidemics have recently occurred.*
 - (b) *vaccination of presumed susceptible age-groups in areas where ecological conditions are favourable to the spread of infection, and*
 - (c) *vaccination of presumed susceptible age-groups in large centres of population;*
- (iii) *that health authorities in countries in the endemic areas should plan to include yellow fever vaccination in all routine immunization programmes for newcomers by birth or immigration.*
- (iv) *that countries outside the endemic areas of Africa should consider to what extent they could:*
 - (a) *contribute without delay supplies, viz. vaccines, vaccination equipment and refrigerators, insecticides and equipment for their application as well as means of transport sufficient to meet the requirements of the immediate situation, and*
 - (b) *contribute to the long-term programme referred to in paragraph (viii);*
- (v) *that WHO should immediately establish in Africa a unit which, in collaboration with the authorities in the countries concerned, would ensure the collection and rapid dissemination of epidemiological information, would undertake the assessment of the probable nature and*

extent of risk of spread of disease when cases first occur, would act as a centre of information on bilateral assistance and, would ensure that areas where the need is greatest at any particular time should be able to obtain the resources they require;

(vi) that emergency schemes for vector control be set up in areas at special risk;

(vii) that production laboratories be encouraged or assisted not only to increase the quantity of vaccine available but also to improve its quality;

(viii) that a long-term internationally co-ordinated programme of research on the natural history of yellow fever in Africa should be undertaken under the auspices of WHO.

France

France provided 120,000 doses of vaccine to Upper Volta; 150,000 to Mali and 300,000 to Niger, for an approximate total cost of.....\$22,800

Organization for Cooperation and Coordination in the Struggle Against Endemic Disease in West Africa

This organization provided two spraying teams, one seriology and one entomology team, DDT, laboratory analysis, thermal fogging equipment, six vehicles and fuel. Value of this aid was not reported.

\$ 29,200

MOROCCO

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

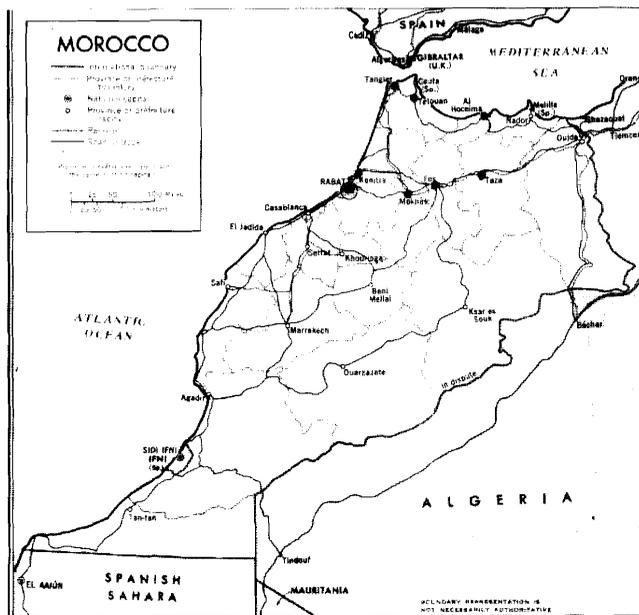
DATE-TIME: January 1970

LOCATION: Provinces of Taza, Fez, Meknes, Kenitra, Tetuan and Al Hoceima

DISASTER VICTIMS: Killed Injured Homeless Evacuated
 11 3 11,705 266,441

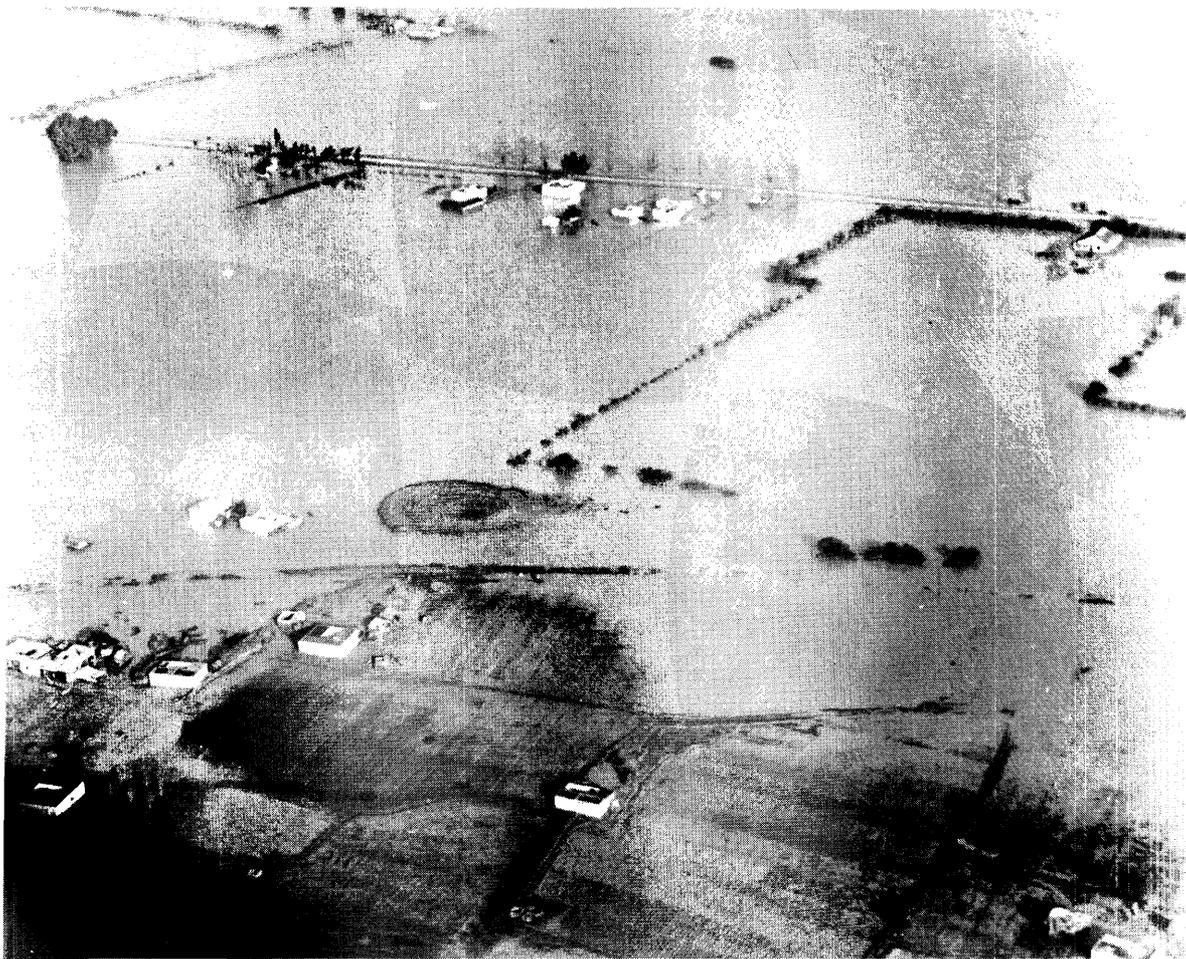
DAMAGES:		<u>Houses</u>	<u>Crops (Hectares)</u>	<u>Livestock</u>	<u>Trees</u>
		<u>Destroyed/Damaged</u>	<u>Flooded/Washed Away</u>	<u>Drowned</u>	<u>Destroyed</u>
Taza		2,248	1,734	17,114	79,615
Meknes		7,111	15,000		
			170,000		
		<u>Roads</u>	<u>Bridges</u>	<u>Estimated Dollar Damage</u>	
		<u>Destroyed/Damaged</u>	<u>Destroyed</u>	<u>Not available</u>	
Taza		10 kms	4		
Meknes		500 kms	12		

DESCRIPTION OF THE DISASTER:



Torrential rains began in November 1969. At first there was a normal pattern of seasonal floods, but continued heavy rains caused flooding of unprecedented proportions early in January. Cattle, trees, and large parts of crops were carried away. Bridges and roads were damaged and destroyed. The fertile Gharb area north of Kenitra was reported to have resembled a vast inland lake over an area 60 miles long and 50 miles wide, comprising 1200 square miles

The Sebou Valley, north of Rabat, was turned into a huge inland sea that cut off land contact between the north and



south of the country. The north Moroccan cities of Tetuan and Tangier were also virtually isolated from the rest of the country and freighters in the harbor of Kenitra floated higher than the flooded docks, according to news reports.

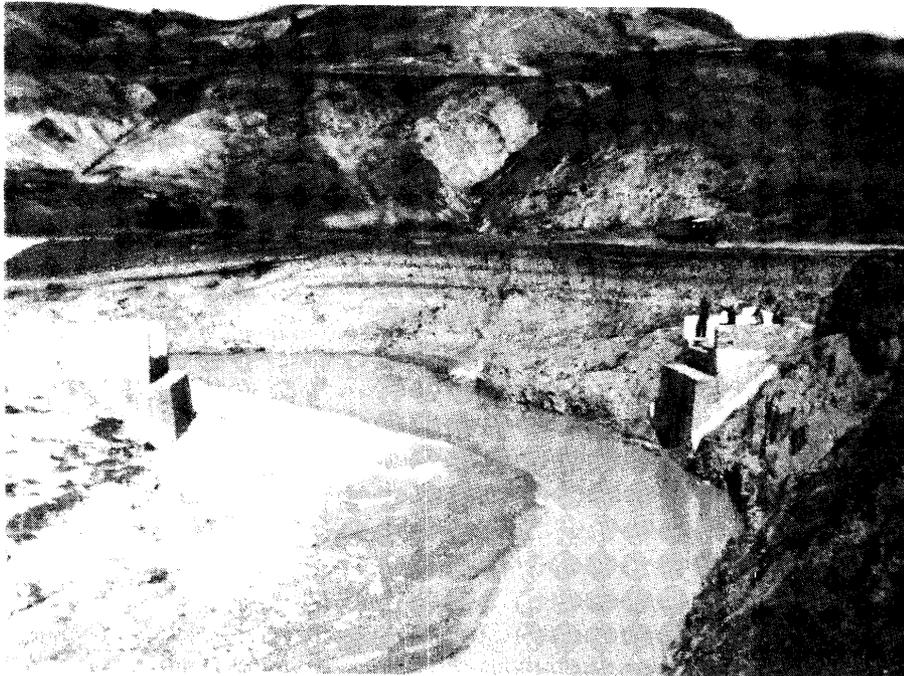
ACTION TAKEN BY THE GOVERNMENT OF MOROCCO AND LOCAL ORGANIZATIONS:

Local authorities in every province affected by the floods acted promptly in organizing and directing rescue operations. Moroccan troops, police and firemen evacuated marooned farmers and their families by small boats. A delegation, which included the Ministers of Agriculture, Public Works and Interior visited the disaster areas. The Moroccan Red Crescent, the Entraide Nationale and the Moroccan Army helped local authorities in the disaster relief operations. Following an appeal by the King, a fund raising campaign was initiated for the people who suffered loss or damage. Donations in cash were collected by the Banque du Maroc and credited to a special account opened in the name of the Prime Minister. The King donated two months salary, the ministers one month and other civil servants smaller amounts in accordance with their rank or ability.

Benefits and community drives took place in major Moroccan cities. A special surcharge on certain postage stamps was adopted. Government owned or managed industries, such as the Office Cherifien des Phosphates, the Regie des Tabacs, Charbonnage Nord Africain, and many others made cash donations, as did the General Tire Company and Moroccan overseas companies. An appeal was made by the Morocco Red Crescent and by Moroccan officials for outside assistance, including the U. S. Government. A committee chaired by the Prime Minister and consisting of the Ministers of Interior, Agriculture, Health and Public Works was appointed by the King. It was given the responsibility of administering and allocating disaster relief supplies from all sources.

The U. S. Mission reported that despite communication difficulties in certain areas, Moroccan relief operations were carried out adequately.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

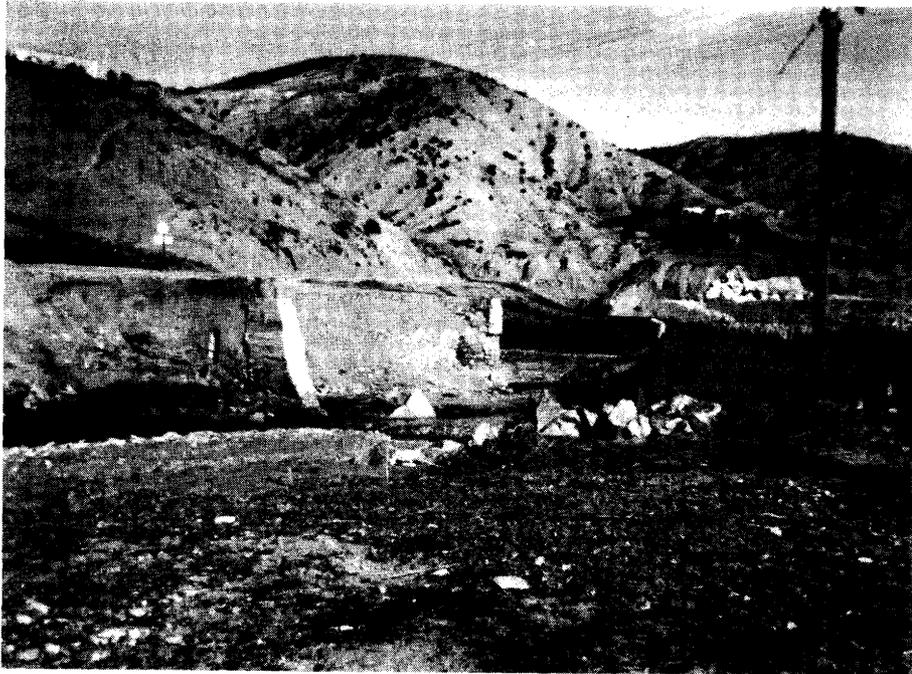


Destroyed bridge near Taza on Secondary Road RS 312

Shelter and blankets were among the priority needs of the flood victims. The U. S. Charge' exercised the Mission's disaster relief authority and requested the U. S. Military Command in Germany to supply and transport to the disaster area 35 US Army 10-man squad tents and 600 blankets.

These arrived in Rabat on board a USAF plane on January 20, 1970, and were immediately transferred to the Moroccan authorities. Cost of the blankets, tents and airlift to the AID contingency fund.....\$25,732

Assistance was also sought from the USG in providing temporary bridges for three that had been washed away. This was approved by AID/Washington, dependent on the results of a US Military Engineer Command survey of the proposed sites. An engineer team visited Morocco April 14 to April 18 and determined that the use of Bailey bridging was feasible. They inquired about the status of planned permanent bridge design. The firm in Rabat known as S.O.M.E.J. hired to study the possible alignment of the highway



Second site of Bridge Destroyed on Secondary Road RS 312

and the bridges was at that time still preparing topographic maps of the valley and making a hydrology study of the basin with the intention of relocating the road at a higher elevation. The permanent bridges, it was reported, would be designed to withstand a 100-year flood and

possibly relocated. S.O.M.E.J. agreed to have its survey team supply the topographic plan, profile and hydrology data for temporary bridging for a ten-year flood at three of the destroyed bridge sites in the Taza area. The following is quoted from the April 17, 1970, USAID Engineer's Report:

Since topographic maps still remain to be prepared, it is very doubtful if the final design of the new road and new bridges will be finished before the end of calendar year 1970. I would estimate normal construction time for each permanent bridge as follows: Site No. 1 - six months; Site No. 2 - 8 months; Site No. 3 - 15 months. Construction of the new road will be through some of the worst expansive clays imaginable and could take as long as three years. The installation of Bailey bridges at these three sites at an elevation high enough to withstand a ten-year flood (about the normal life of the bridge) seems to be the only alternative to keep these roads open to traffic.

On July 21, 1970, the US Army Engineers presented plans and detailed drawings for the three proposed bailey bridges to the Government of Morocco Minister of Public Works and Royal Armed Forces Engineers. These plans and drawings were accepted by them on the condition one of the bridges could include an additional length of 12 meters. Total amount of Bailey bridging required was estimated at 516 feet of double-single bridging, which included 130 feet of triple single bridging for one of the proposed sites. AID/DRC arranged for purchase and transportation of the Bailey bridges from the Army Materiel Command in the US. They arrived in Morocco September 29, 1970. Estimated cost to the AID contingency fund was.....\$215,000

Other USG aid consisted of P. L. 480 Food for Peace Commodities provided by Catholic Relief Services from their regular program as follows: 143,608 bags of bread flour; 46,870 bags of cornmeal; 11,547 cartons of vegetable oil and 10,185 bags of nonfat dry milk. Market value...\$594,075

Total USG Contribution.....\$834,807

The U. S. Mission advised that US donations of food and tents were reported in all Moroccan newspapers and on radio and television. The High Commission for Entraide Nationale publicly acknowledge the US help in an address of which the following is, in translation, an extract: *In these sad days for my country resulting from the floods which continue to affect hundreds of thousands of Moroccans, the generous action of the United States of America that materialized through the Catholic Relief Services with spontaneity, promptitude and enthusiasm, underlines the strong proclivities dating back to more than a century of the Moroccan people for the American people.*

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services

CRS released at once the above P. L. 480 food commodities with USAID approval. From their own stocks, CRS donated 41,220 pounds of used clothing valued at.....\$ 61,830

American National Red Cross

ANRC made a cash donation of \$5,000 and 14 bales of union suits valued at \$1,400 for a total contribution of..... 6,400
\$ 68,230

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Other governments and Red Cross/Red Crescent Societies reported the following contributions for the flood victims:

Algeria - food, tents, 10,000 blankets, clothing.....	\$ 62,080
Australia - cash	550
Belgium - supplies (sugar, dry milk, blankets).....	*
Bulgaria - supplies.....	5,020
Canada - cash and supplies.....	17,740
Denmark - cash.....	6,680
Finland - supplies.....	30,000
France - supplies (blankets).....	2,790
Germany Dem.Rep. - 8,000 blankets, 20,000 meters cloth, 10 tents..	14,010
Germany Fed.Rep. - 21,000 blankets, clothing, cash	15,700*
Great Britain Red Cross - cash and supplies.....	\$ 3,050
OXFAM - cash.....	4,200
Iran - cash.....	130,700
Italy Government - cash and supplies.....	\$15,740
Red Cross - supplies.....	66,800

Jordan - cash.....	\$	280
Republic of Korea - cash.....		200
Kuwait Government - cash and 10,000 tents.....	\$149,500	
Red Cross - cash.....	<u>2,400</u>	151,900
Lebanon - cash.....		110
Luxemburg - cash.....		230
Lybia - unspecified number tents, blankets, clothing airlifted...		*
Monaco - cash.....		360
Netherlands - 1,000 blankets.....		5,200
New Zealand - cash.....		1,110
Norway - cash and supplies.....		17,350
Pakistan - 150,000 dirhams (\$30,000) and unspecified number of tents, blankets and clothing airlifted.....		30,000*
Red China - 1,000 tents, value not reported but est. by DRC about		80,000
Romania - cash and supplies.....		33,370
Sweden - 375,000 dirhams (\$75,000) blankets and tents.....		75,000*
South Africa - cash.....		280
Switzerland Government - cash, 5 tons dry milk, clothing..	\$15,850	
Red Cross - supplies.....	<u>11,500</u>	27,350
Tunisia - two railcars loaded with tents, clothing, food.....		*
Turkey - tents and sugar.....		7,260
USSR - cash.....		20,000
UNESCO Staff Association - cash.....		340
UNICEF - supplies.....		<u>31,120</u>
		\$ 856,520

* Incomplete or not reported

NIGER

CHARACTERISTICS OF THE DISASTER

EVENT: Meningitis Epidemic

DATE-TIME: December-March 1970

LOCATION: Throughout Niger but mainly in Niamey and Dosso

DISASTER	<u>Cases</u>	<u>Deaths</u>
VICTIMS:	2,677	319

DESCRIPTION OF THE DISASTER:

The meningitis season in Niger normally begins in or about December and peaks in April, lasting until the June rains. On March 11, 1970, there were an inordinate number of cases in the early stages of the epidemiological season and word was received that the disease had reached epidemic proportions and that outside assistance was needed to control and treat the disease.

ACTION TAKEN BY THE GOVERNMENT OF NIGER:

The Government of Niger requested assistance from other countries and organizations for drugs, vehicles and personnel and drew up a list of needs. The Niger health budget had been depleted due to a yellow fever outbreak which had occurred earlier. Five Niger Smallpox/Measles teams, using USAID vehicles, undertook meningitis treatment. On March 12, it was reported that all World Health Organizations (WHO) personnel and vehicles in Niger were concentrating on meningitis, leaving other programs at a standstill. Public meetings were temporarily banned.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The American Ambassador exercised his disaster relief authority to commit from AID contingency funds up to.....\$25,000
The following drugs were ordered by USAID/Niamey through the American Embassy in Paris: 20,000 ampoules of Sultirene (Sulfamethoxy Pyridazine); 20,000 ampoules of Tifomycine (chloramphenicol); 20,000 tablets of Tridocefan (vitamins B1,B6,B12).

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

World Health Organization

All WHO personnel and vehicles in Niger were directed to concentrate on the meningitis emergency. WHO donated 10,000 liters of gasoline; 170,000 tablets of sultirene; 130,000 ampoules of fanasil; and other drugs. Value of these drugs and the gasoline was not reported.

France

France donated 20,000 ampoules sultirene and 10,000 ampoules tifomycine. Value was not reported. Local French medical personnel assisted in the control and treatment program.

SOMALIA

CHARACTERISTICS OF THE DISASTER

EVENT: Drought/Famine

DATE-TIME: 1969

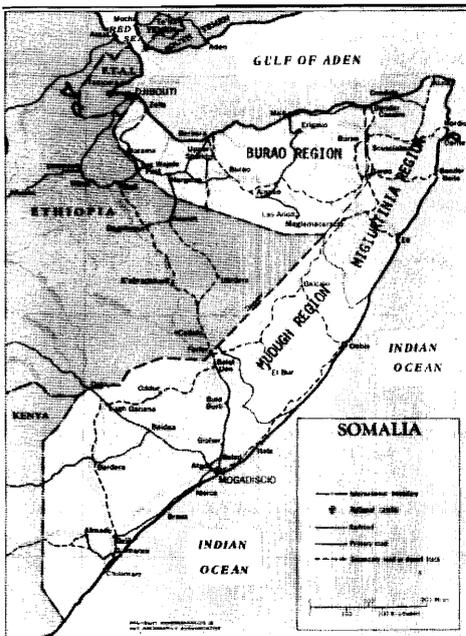
LOCATION: Eastern portion of Burao Region; northern part of Mudugh Region; throughout Migiurtinia Region

DISASTER VICTIMS: People in Need of Food Assistance
30,000

DESCRIPTION OF THE DISASTER:

During the previous three years Somalia experienced an exceptionally unfavorable monsoon cycle. Migiurtinia and North Eastern (Burao) regions consist of uneven highlands with arid climate and sparse vegetation. Stock raising is the main occupation of the inhabitants. There had been scanty and sub-normal rainfall in the North Eastern Region and no rain in Migiurtinia Region for over two years.

The prolonged duration of the drought sapped the strength of the herds of livestock and the long march from the grazing areas to the wells and back took a heavy toll. This reduced availability of meat and milk for the nomads. Meat and milk traditionally constituted the principal diet and only source of protein of the nomadic population. Also, as many of the wells in the affected areas dried up, the nomadic people were in danger of dying of thirst. Thousands of them flocked into the towns and villages in a state of malnutrition and utter destitution. Many of them became easy victims to vitamin deficiencies, diseases of the upper respiratory system, anemia and diarrhoea.



ACTION TAKEN BY THE GOVERNMENT OF SOMALIA:

First indication of worsening conditions in the drought regions and need for outside assistance was a statement which appeared

in the Mogadiscio press: *The Government is presently purchasing food and taking what steps it can to alleviate suffering. Until now the government has resisted pressure to request foreign assistance. As, however, plight is so distressing and requirements of water, food, medical supplies, transport and veterinary drugs for livestock so vast and urgent, the government has decided to give the grave situation in affected areas widest possible publicity so that relief measures it is implementing may be speedily augmented by contributions or donations from internal private sources and external sources such as friendly governments and voluntary organizations.* A delegate of the League of Red Cross Societies, who visited the drought regions, and the World Food Program Project Officer confirmed the need for outside assistance to prevent starvation and disease.

Measures taken by the Government of Somalia consisted of sending teams of mechanics to the areas to keep the deep bore pumps in good repair, the purchase of 200 tons of rice (cost about \$26,000), plus \$14,082 worth of dates and about 100 drums of vegetable oil. Also, special teams of veterinarians and their assistants toured the area providing help for the livestock. Medicines were airlifted in and Government trucks carried drums to supply water at important locations.

The President of the Somalia Republic was shot to death at Los Anod in Migiurtinia Region on October 16, 1969, while visiting the drought areas. A coup d' etat followed on October 21. Following the revolution, most, if not all, of the Somalia officials most directly concerned with the administration of the drought relief program were no longer in charge. However, information was received through the World Food Program representative that on November 2, 1969, the Supreme Revolutionary Council had given approval to proceed with the previous Government's request for emergency distribution of food to Migiurtinia and nominated their representative to work out satisfactory distribution and accounting procedures.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

On September 4, the American Ambassador exercised his disaster relief authority and made a cash donation from the AID contingency fund of 100,000 shillings for the transportation of water, food and other supplies to the drought areas. Dollar equivalent was.....\$14,082

Also AID/W approved the following contributions of P. L. 480 Food for Peace commodities to the World Food Program for emergency feeding: 2,025 metric tons of sorghum; 212 metric tons of vegetable oil; 180 metric tons of nonfat dry milk. Estimated market value of these commodities was \$283,000, plus ocean freight charges estimated at \$160,000 for a total value of.....\$443,000
\$457,082

The USAID program in Somalia was terminated and staff was being rapidly phased down at the time the Mission reported on this disaster. US relief activity was limited to the above.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

World Food Program

The World Food Program, in cooperation with the Government of Somalia, proposed a project that would provide emergency food to drought-stricken persons in the Migiurtinia and Northeastern regions of Somalia. The Somalia Government requested that WFP provide 2,417 tons of sorghum, vegetable oil and nonfat dry milk to be distributed to 30,000 people over a 5-month period. The WFP requested the United States to contribute all of these required commodities. This was approved by AID/W and values are recorded above under U. S. Government Assistance.

Australia - cash.....	\$ 1,110
Canada - cash and supplies.....	14,280
Denmark - supplies.....	7,500
Finland - supplies.....	2,530
Germany Dem.Rep. - supplies.....	11,950
Great Britain - cash.....	2,640
Jordan - cash.....	280
Kuwait - cash.....	1,200
Lebanon - cash.....	40
Netherlands - supplies.....	2,760
Norway - supplies.....	700
South Africa - cash.....	140
Sweden - cash and supplies.....	18,860
Switzerland - cash.....	5,810
United Arab Republic - cash.....	4,090
	<u>\$ 73,890</u>

TOGO

CHARACTERISTICS OF THE DISASTER

EVENT: Displaced Persons Crisis caused by Mass Expulsion of African Aliens Resident in Ghana into Togo

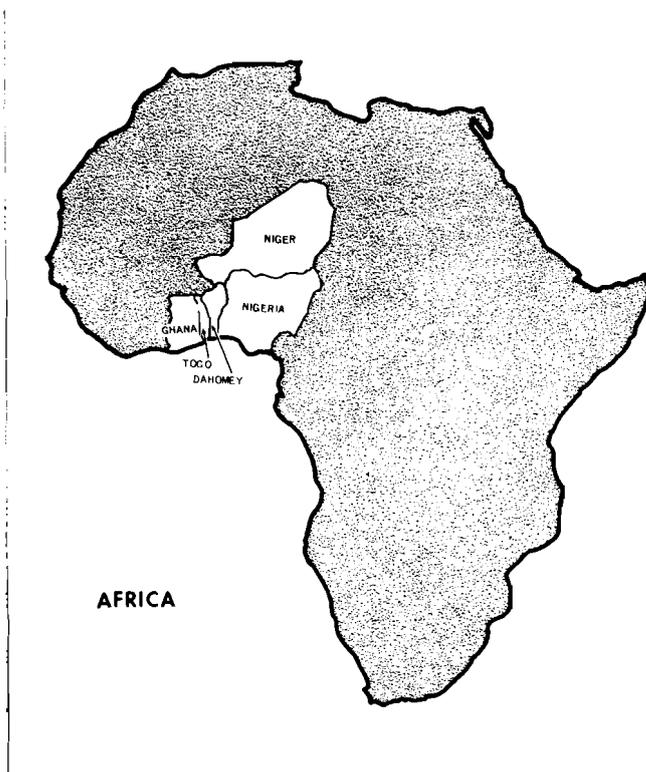
DATE-TIME: December 1969

LOCATION: Lome, Tsevie, Keve, Palime, Badou, Bassari, Sansanne-Mango, Dapango, Chinkasso

DISASTER Displaced Persons Moving Into Togo
VICTIMS: Up to 200,000

DESCRIPTION OF THE DISASTER:

Ghana suddenly joined the many African states from which masses of people have been expelled. In a population of eight million in Ghana, there were about two million aliens, 40 percent of them under 14 years of age. Many of them were expelled on two weeks notice.



The immigrant problem in Ghana antedated the current administration. The previous administration under Mr. Nkrumah opened Ghana's doors with only limited provision made for passports, travel documents and residence permits, though technically aliens were supposed to have them. However, strangers remained strangers in spite of intermarriage, and tribal groups remained largely distinct. For years, the immigrants helped the economy; but they became increasingly unpopular when unemployment rose. Ghanians felt strangers were

depriving them of jobs.

On October 23, the new Minister of the Interior, announced that the influx was to be checked. In mid-November, the National Crusade for the Protection of Ghanaian Enterprises called for the inspection of all residence permits and the expulsion of aliens not in possession of them. The Cabinet called for expelling those unable to produce permits but extended the time to two weeks. Those who did not possess the requisite residence permit were on notice to leave Ghana by December 2. These aliens were from various African countries including Dahomey, Nigeria, Niger and Togo.

A large number of the expellees crossed the border into Togo. These consisted not only of Togolese who had been living in Ghana but also people from Dahomey, Nigeria and Niger who were transiting Togo to return to their own countries. There were no exact figures on the number of people who actually crossed into Togo.

During the first half day on December 2, an estimated 10,000 people crossed the Togo-Ghana frontier at Aflao (only several hundred yards from Lome, the capital). By the time the Togolese Government belatedly decided to close the Togo-Ghana frontier to all but Togolese on December 6, an estimated 30,000 to 50,000 people had entered Togo at Aflao. Only a small proportion of them were able to go on immediately to Dahomey, Niger and Nigeria. Added to this number were those who crossed into Togo at other border points with Ghana such as Keve, Palime, Badou, Bassari, Mango and Dapango. The number of people actually entering Togo throughout the month of December, including those merely transiting the country, ranged from 100,000 to 200,000. According to a government inspection team which toured through the interior, probably 70,000 Togolese expellees returned to Togo.

During the first several days, the real problem was in Lome where the displaced people divided into two groups--one occupying the major portion of a two-mile stretch of beach extending from the border into downtown Lome, and another (mostly Nigerians) in the Zongo quarter of Lome proper. Many of the people brought a little food with them but not enough to keep their increased demand on the local food market from driving the price of some staples sky high. Their need to transform their Ghanaian currency into C.F.A. francs cut the blackmarket rate for the Ghanaian currency in half. Problems developed over water, sanitation and medical care, especially in the overcrowded Zongo.

ACTION TAKEN BY THE GOVERNMENT OF TOGO AND LOCAL ORGANIZATIONS:

There were two different situations from the onset--first, the problem of the Togolese nationals among the expellees (an ongoing problem); and, second, those of other nationalities in transit.

Fortunately, there was already in existence in Lome a Committee for Receiving Refugees, consisting of the Togolese Red Cross, Catholic Relief Services, the Quakers, Catholic Church of Togo, Evangelical Church, Togolese National Youth Council organized under the auspices of the

Togolese Government's Social Affairs Service with its Secretariat in the Togolese Red Cross. Others involved in the relief effort were Market Women's Association, Boy Scouts, Togolese Military, Togo Port, Tokoin Hospital, Office of the Mayor of Lome, Midwives Association and Lions Club.

The Togolese Social Affairs Service went into almost immediate action to care for the Togolese expellees by setting up a reception center in the Kodjoviakope quarter near the Aflao crossing point and by obtaining military vehicles to transport these people back to their native villages. This center continued in operation even after the large influx of December. The Service distributed World Food Program food, provided medicines and transportation.

The Togolese Red Cross was among the most effective relief organizations. During the relief effort, it set up four first aid centers and distributed food and medicines. It also coordinated much of the volunteer activity of the diplomatic missions, individual churches and private individuals. Others of the above mentioned organizations donated food, volunteer cooks, money, first aid dressings, transportation and gasoline. They served food, identified people in need of medical care, aided in crowd control, provided mobile kitchens, pump trucks for water supply and ambulance service. They also aided refugees boarding the ship chartered by the Nigerian Government for its people.

The first immediate needs were the care of expectant mothers and small scale food distribution.

The Togolese then commandeered all Ghanaian trucks they could find on the Togo side of the border and ordered them loaded with non-Togolese refugees for transport to the Dahomean border. When the drivers objected, Togo authorities informed them they would not be allowed to return to Ghana until they had carried out this mission. The vast majority of non-Togo expellees had transited Togo by the latter part of December.

On December 8, the Government began to move the displaced people still remaining to a camp established on the eastern outskirts of Lome. This served the purpose of moving individuals out of Lome nearer the port where they could more easily board ships chartered by the Federal Government of Nigeria and of concentrating them in a location where relief efforts could be more rationally organized.

At this camp Affaires Sociales, Secours Catholiques and the Togolese Red Cross established small centers. Food, water and medical supplies were distributed and persons needing medical attention were evacuated to the Tokoin Hospital. The Togolese Red Cross provided an ambulance and medical supplies also for the Togo-Dahomey border.

Once the ships chartered by the Nigerian Government arrived and regular convoys of trucks were on the road going to Dahomey, the situation began to resolve itself and come under control.

The main problem then was the absorption of the 70,000 Togolese who had returned in December plus those expected in the future as Ghana strictly applied its new residence regulations. It was expected that problems of overcrowded educational facilities, lack of employment and overpopulation would continue for a long period of time.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The Ambassador exercised his disaster relief authority to permit a cash donation to the Togolese Government for its relief operations. This contribution from the AID contingency fund amounted to.....\$ 7,200

The US Mission commented: *Since the first check received by the Togolese Government after its request for assistance was that of the United States, this gesture had a particularly favorable impact.*

Other USG help consisted of the services of about 30 Peace Corps volunteers, two jeeps, a land rover and a pickup truck provided by them; medicines, food and services of Embassy vehicles; services of the Regional Heavy Equipment Training Center (a USAID project) and two trucks; and use of an electric generator from the US Cultural Center.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Quakers

Representatives of the Quakers in Lome told the US Embassy they had requested funds from their headquarters in Philadelphia but information on the amount was not available. The Quakers gave active assistance to the Ibos among the expellees.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

League of Red Cross Societies

Sent Dr. Henryk Zielinski from Geneva to draw up a plan to handle any future situation developing from the Ghana expulsion order, and made a cash donation of.....\$ 5,000

United Nations

Through the World Food Program representative, food was distributed to the Social Affairs Service of the Togolese Government. Information on the amount and value was not available.

Canada - cash.....	\$ 6,000
Denmark Red Cross and Government - cash.....	2,670
France - cash, 100,000 doses yellow fever vaccine and 50,000 doses of smallpox vaccine, total value about.....	13,500
Germany Fed.Rep. - cash.....	15,240
Great Britain Government, Red Cross and OXFAM - cash, vehicles, volunteers, financial assistance, medicines.....	6,600
South Africa - cash.....	280
Sweden - cash.....	9,400
USSR - supplies.....	7,250
	<u>\$ 65,940</u>

TUNISIA

CHARACTERISTICS OF THE DISASTER

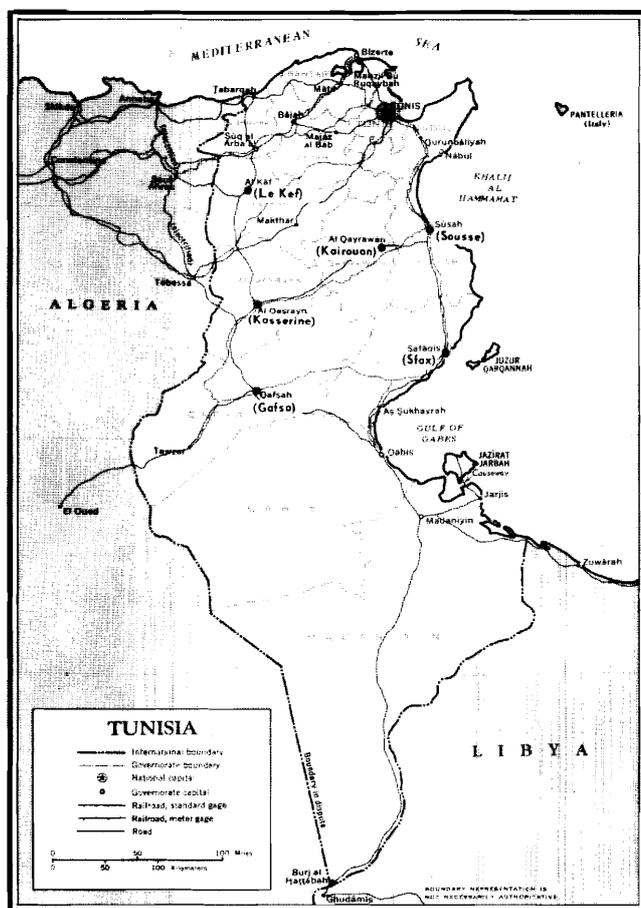
EVENT: Floods

DATE-TIME: September 24 - October 29, 1969

LOCATION: Country-wide

DISASTER	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>
VICTIMS:	540	Unknown	271,269

DAMAGES: There were 70,504 homes destroyed with extensive losses in agriculture, roads, rails and bridges. (See section below on Economic Impact for specifics.) Total dollar damage was placed at \$100,000,000.

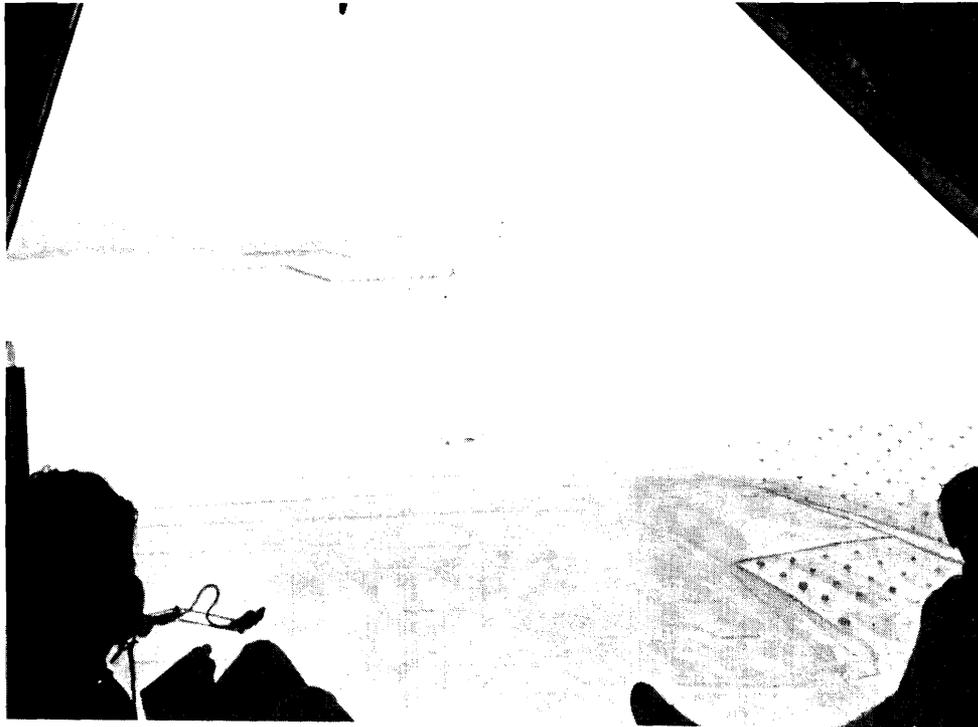


DESCRIPTION OF THE DISASTER:

Almost matching the prolonged downpour of Biblical fame, rain fell steadily on Tunisia for 36 days in September and October. There were four major storms of unbelievable force and intensity within a month. The first hit on September 24-27, the second on Oct. 5-8, and the third and fourth between October 21-29. From September 24 and October 30, 52 inches of rain fell in Kairouan area which usually receives 12-1/2 inches a year--or an equivalent of 4 years rainfall in 36 days. Other areas averaged 24-32 inches.

A number of weather stations reported repeated occurrences of severe rain intensity reaching 8-12 inches per hour. All 13 provinces in Tunisia suffered from the floods. The most serious damage occurred in Kairouan, Sousse, Sfax and Gafsa, followed by Le Kef and Kasserine. Rivers crested 36 feet above normal. Whole villages vanished. Thirty-two major bridges were washed away and the map of Tunisia was drastically revised because of newly created river beds. The Zeroud and Marguelil rivers, swirling together, created a torrent eight miles wide. The force was so great that 100-ton concrete slabs, used to anchor bridges, were washed downstream. Observers flying over the devastated areas reported that "permanent" installations were literally torn out and smashed to bits. Some of them had been designed to withstand submersion but not the torrents of solid matter (mud) that were hurled against them. An irrigation project that took two years and \$7 million to construct was washed away in six hours.

Other serious storms and floods had struck Tunisia in the past--in 1932 Lake Kelbia overflowed and cut the highway at Sidi Bou Ali; in 1959 violent storms struck the Sousse and Kairouan-Enfidaville regions; in 1962 a record flood termed the worst in a hundred years devastated the Gabes region, and in 1964 there were simultaneous floods in the Tunis (Khledia) and Kairouan regions. The 1969 floods were far more serious than any of these.

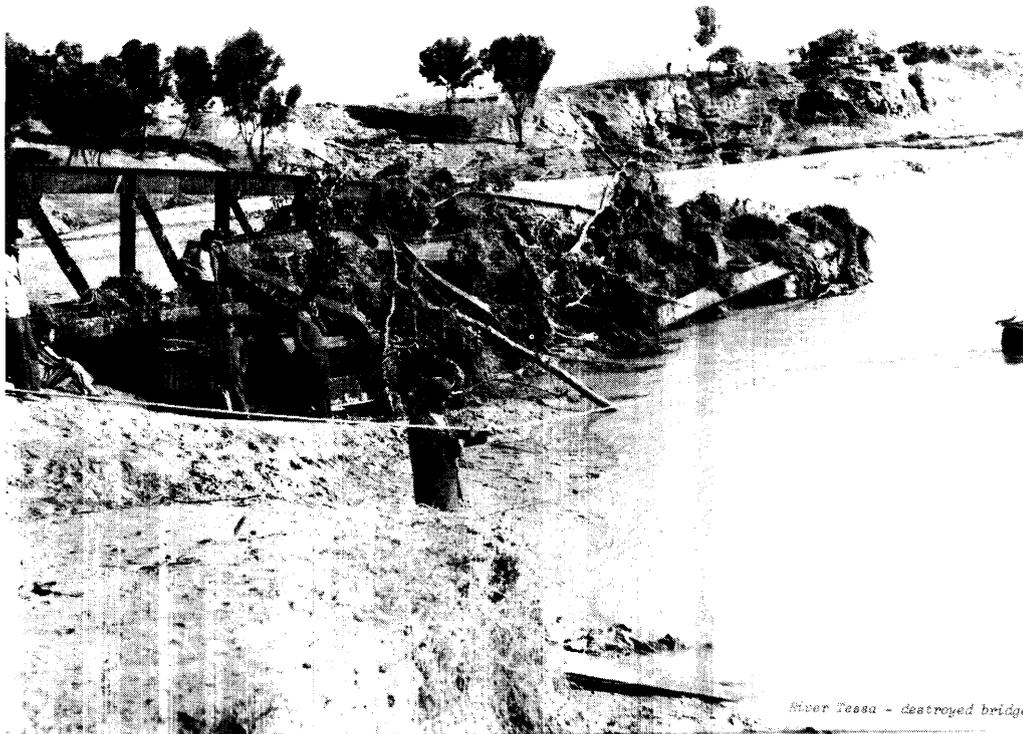


Flooded fields between Sousse and Kairouan, after first flood



View of road between Bins Bon Alt and Bridge

Many highways, railroads and bridges were destroyed throughout the flood area



River Tessa - destroyed bridge

According to a "Time" magazine article in the December 19, 1969 issue, meteorologists blamed the flood on a shift in the Azores high-pressure area from 35 degrees north latitude, where it normally centers, to 45 degrees north. The shift eliminated summer rains from most of Europe and brought unusually warm and sunny weather. Meanwhile, cool air suddenly began to flow from the Soviet Union toward the Mediterranean. A low pressure system over Northern Africa created a bowling-alley effect, directing the moisture-laden air mass straight at Tunisia. On the Tunisia-Algeria border, the Atlas Mountains blocked the air and caused the rain to fall. The mountains also set up a swirling air flow in which clouds gathered up new water. Algeria was also hard-hit by these storms. See separate report.

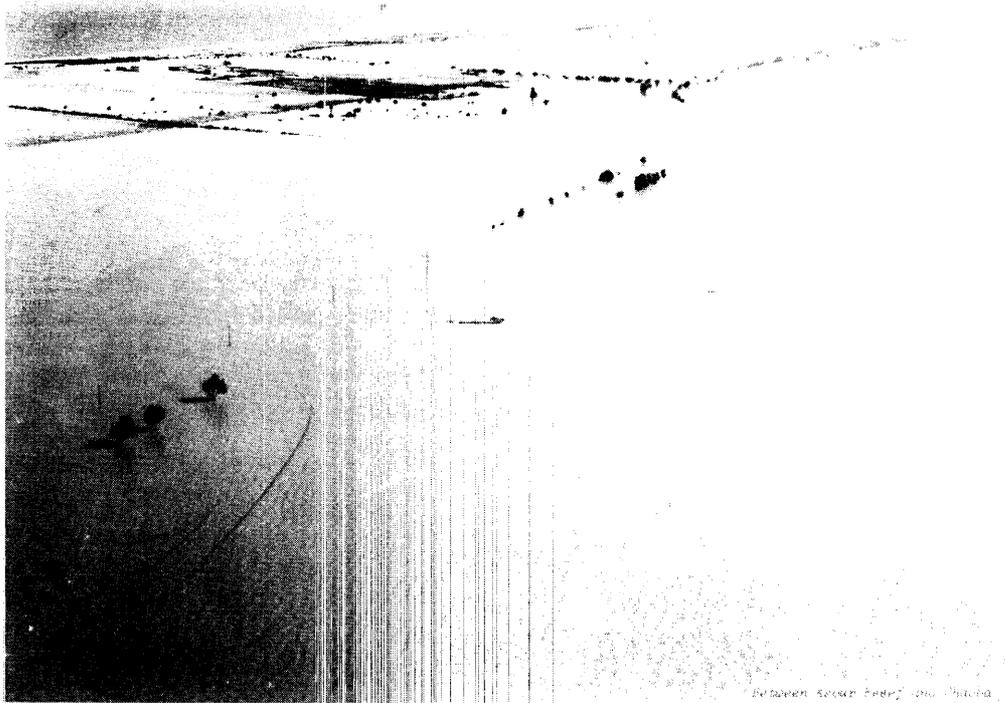
Economic Impact

Over 70,000 homes were destroyed and tens of thousands of livestock drowned. Dollar damage resulting from destroyed and damaged houses, public buildings, communications facilities, roads, railroads and agriculture was estimated at \$100 million. Breakdown for losses in roads and bridges was \$19 million; for railways and bridges \$14.5 million; and for agriculture, including livestock, plantations, irrigation systems and wells \$10 million. Over 200 kilometers of roads were entirely washed away or severely damaged and 32 bridges were destroyed. Fords which had been



constructed in place of bridges became ravines several meters deep and could only be crossed if bridges were constructed in the traditional sense of the word.

Destruction of railways and rail bridges had the greatest impact on the economy. The export of two main products which provided revenue for the Tunisian budget (phosphates and iron ore) was seriously threatened. Access to the Jerissa and Kaalat-Khasba mines was cut off. About 20 kilometers of track were destroyed. In the south, on the Sfax-Gafsa line, about 100 kilometers of track disappeared. The equivalent of \$5 million in monthly currency receipts were jeopardized. Repercussions upstream affected the entire mining industry. It was stated that if traffic were not restored within two months, 15,000 to 20,000 workers would be out of jobs because products of the mines could not be shipped.



Potential for Future Major Flood Disasters

Another serious consequence of the 1969 floods was the effect on wadi or river beds. These are beds of rivers or streams dry most of the year but which become rivers and torrents during rainy periods. These river beds had been measured, and precisely referenced technical information was available on ordnance survey maps. Following the September 24-27 storm, some of the river beds were found to be from 2 to 3 meters higher. One in particular was the Tessa river bed about 20 kilometers from Le Kef. This means that future floods will bring out new beds. In other words, these rivers or streams could not flow any longer in the beds as now known, they

will dig new beds, which will result in more and more disasters. Ten kilometers from Tunis, the Milane bed was last graded and referenced after the 1964 floods. After the September 24-27, 1969, storm, the "old" Milane continued to flow normally; the bridges and dikes functioned as expected. But, 20 kilometers upstream, part of the river left its bed and "new" rivers cut off the railroad and road traffic, isolating the southern suburban areas of Tunis.

In the case of Kairouan, the Zeroud River is known to have from 2 to 3 beds, 1 kilometer here, 500 meters there. After the storm, the Zeroud was approximately 15 kilometers wide. It flowed with torrent strength, causing heavy damages and cut off most of the roads in the Kairouan Governorat. In the area of Maknassi, a phenomenon occurred. Where there had been only Sebkhass (seasonally dry lakes), new rivers, 50 to 100 meters wide, flowed for tens of kilometers. This meant, from a technical point of view, that 200 to 500 kilometers of roads and railroads would have to be relocated.

A Tunisian Report on this said that final and definite solutions to these problems could only be found and realized in a minimum of from 3 to 5 years; that important choices would have to be made because it was impossible to assist all the provinces at one time; that it was not possible to rebuild the whole demolished network in the near future; that some of the isolated rural areas would have to be left as they are, even though this might mean they would be flooded again in the future. The report stated that the classical solutions, meaning restoration of concrete, steel and stone bridges, were out of the question because they pre-supposed a minimum communication network for access to the work sites and that this network was no longer there. Therefore, use of temporary prefabricated bridging elements were recommended to bring quick return of both rail and road traffic.

ACTION TAKEN BY THE GOVERNMENT OF TUNISIA AND LOCAL ORGANIZATIONS

When the disaster hit, immediate responsibility for coordinating rescue and relief operations was vested in the Ministry of Defense with the chief of this Cabinet as the initial coordinating officer. The Army evacuated flood victims and delivered relief supplies through the use of helicopters. Search and rescue helicopters provided by the United States, Morocco, France and Germany were also used extensively by the Ministry of Defense for these purposes.

As soon as possible emergency relief responsibility was transferred to civilian organizations--the National Committee of Social Solidarity (NCSS) for food and material aid; the Ministry of Health for medical aid; and the Ministry of Public Works for reconstruction. Some confusion occurred during the transition period, and duplicate shipments of supplies to some areas occurred. This was soon corrected. Coordination problems also occurred in the use of helicopters for relief drops, until a system of giving NCSS advance notice of helicopter schedules was worked out.



Flood destruction in Gardimaou



Helicopter evacuation of flood victims

The NCSS was responsible for purchasing relief supplies, warehousing and distributing them. It also received donated supplies from local sources and from other nations. The NCSS is the principal Tunisian welfare agency. It has regional offices and personnel in each gouvernorat. It is the counterpart agency for the U. S. voluntary agencies in the P.L. 480 Title II food program. Tunisian army vehicles as well as air and sea transport were put at the disposal of the NCSS to supplement its fleet of trucks. During the month of October, the NCSS shipped to the flood areas approximately 3,000 MT of food commodities, 2,500 tents, 55,000 blankets, and large quantities of clothing and aluminum utensils. NCSS personnel often worked around-the-clock allocating supplies, loading trucks, meeting planes and keeping records.

The Tunisian Red Crescent worked closely with the NCSS. Many of the donations from abroad were consigned to it and virtually all of the aid (except medical) received by the Red Crescent was turned over to NCSS for distribution. The Red Crescent assigned a liaison man to NCSS and representatives of the Red Crescent regional offices participated in the distribution.



Secondary school students preparing to dig out the city of Gardimaou

Although at the national level relief was channeled entirely through existing organizations and no new ones were formed, at the regional/local levels special "committees of coordination" were formed in each province. The Governors themselves took charge and the committees worked under their direction. These committees assisted in rescue operations and in distributing relief supplies.

Information is not available on the dollar value of relief aid by the GOT and in-country donations, but as of October 30, 1969, over \$325,000 had been deposited for payments to flood victims.

The Ministry of Public Health conducted emergency medical, health and sanitation activities. Priorities and programs were determined. Organization was along administrative lines with directives from the Chief of Medical Services to regional medical officials. All of the division heads in the MOH fanned out to the various regions affected by the floods. Activities included disposal of dead animals, hygiene in camps, purification of wells and water systems, and vaccination against typhoid. By October 31, almost 600,000 people had been given at least one typhoid vaccination. Plans included inoculation for another 500,000. Second shots were to follow. Vaccine was provided from the U. S., Sweden, England, France, Turkey, Iran, Libya, and Egypt.

The Ministry of Public Works was charged with the responsibility for the reconstruction program--one that would require a tremendous effort and financial input to remedy the extensive damage to Tunisia's infrastructure. Construction programs costs were estimated at \$8.4 million. Public Works engineers were sent out to devise temporary measures to reopen the main supply routes and at the same time to study the permanent reconstruction requirements. On October 8, a press conference was called to ask the international community for long-term assistance. By December 13, 1969, roads were reestablished to all of the major population centers and engineers from the U. S. and various West European countries were assisting Tunisian engineers in the reconstruction of bridges and rail lines. In connection with the installation of Bailey bridges from the U. S. with U. S. military help, the Government of Tunisia input consisted of Army and Ministry of Public Works equipment, local material and personnel to construct embankments, abutments, piles and do earthwork. They reconstructed roadbed, trackage and minor bridges. Cost of this to the Government of Tunisia was estimated at 105,000 dinars, or \$200,000.

Relief Problems

The most frustration for the Tunisian relief organization was the lack of accessible roads and communications during critical periods. On frequent occasions (note there were four major storms during the disaster period), roads to all areas requiring relief were completely cut. Most of the major roads were opened and reopened several times through temporary repair measures, but often the duration when they were passable was extremely short. Consequently, commodities tended to pile up from time to time in the central warehouse in Tunis, with trucks standing idle waiting for roads to open,

while at the same time the need for supplies in the flooded areas was urgent and immense. Lack of telephone communications made it difficult to keep abreast of the flood developments. This was partially eased through frequent use of direct radio communication between the Ministry of Interior and each of the Gouvernorats.

It was necessary to use sea transportation from Tunis to the coastal provinces of Sousse, Sfax and Gabes to overcome overland transportation problems. Helicopters were used extensively for airdrops of relief supplies. If it had not been for the helicopters during periods when many areas were completely cut off, greater suffering and death would have occurred.

Relief Camps

Flood victims were evacuated and grouped in mosques, schools, youth hostels and community centers. They were given food, clothing and attended to medically. For the most part, however, they did not remain long in these shelters. They were anxious to get back to their villages and local officials encouraged them to do this. Those that lost their homes usually moved in with relatives or friends. Very few "tent camps" were set up. Those that were did not function long.

The policy of rapid dispersion of disaster victims had obvious advantages, but it made relief distributions more difficult. Where there were thousands one day, there were only tens the next. And the frequent recurrence of floods in some areas made it necessary to evacuate the same people several times.

The U. S. Mission commented as follows on this situation: *"In the long run, this deliberate policy of avoiding large and 'semi-permanent' refugee camps, although frustrating to those in charge of distributing relief supplies, was probably a wise decision. It prompted people to try to return to normalcy as soon as possible and the freer agricultural policy, which occurred at about the same time, offered them some hope for the future. At the moment, many homes have already been repaired or rebuilt and it is difficult to distinguish between those who lost their belongings during the flood and those who have never had much to begin with."*

It was stated further that while many of the people had rebuilt their homes they had few of the essential food and material supplies to tide them over the winter; that an important factor in determining how quickly they could rebound and resume their normal place in the rural society would be the manner in which the World Food Program food and other essential relief supplies were distributed in the six-month period following the floods.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

The following message was sent to the President of Tunisia from President Nixon:

"Dear Mr. President: I am very sorry to read of the disastrous floods which hit Tunisia over the past weekend. I extend my personal sympathy and that of the American people to you and the thousands of victims of these floods. Ambassador Calhoun has informed me of the extensive and well organized relief efforts in progress. We send our earnest wishes for a rapid recovery. With warm personal regards."

USG response to the Government of Tunisia request for assistance on September 27 was immediate. The Ambassador exercised his disaster relief authority to commit \$25,000 from the AID contingency fund for the procurement and airlift of blankets, water purification tablets and anti-typhoid vaccine and syringes from U. S. military sources in Europe.

Preliminary steps to determine availability of these supplies had been taken prior to the GOT's request. On Sunday morning, September 28, a USAF C-130 delivered to Tunis 2,000 blankets, 10,000 units of vaccine, and 20,000 water purification tablets. At the same time, the U. S. voluntary agencies with programs in Tunisia were authorized to release their in-country stocks of PL 480 Food for Peace commodities. They did so immediately. At the time, no one expected the disaster to become as serious as it did, nor to extend for such a long time.

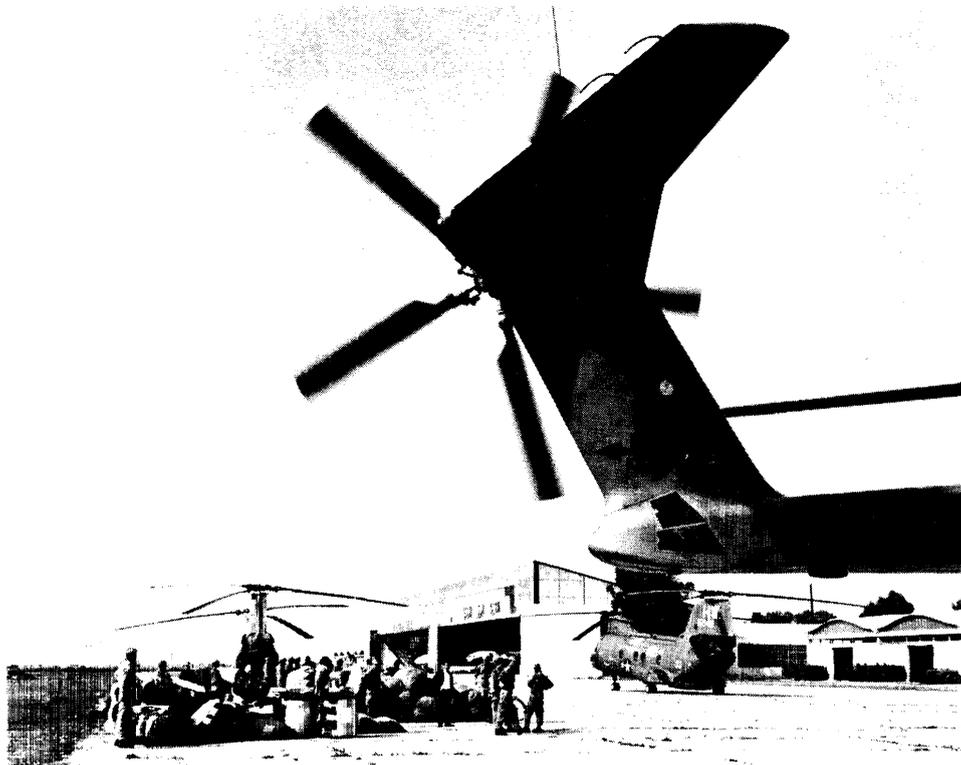
On September 30, the USG supplied a C-130 aircraft from CINCEUR to fly a reconnaissance mission over the disaster area. It carried representatives of the Government of Tunisia, USG, and other Western embassies, all of whom were concerned over the widespread destruction. As a result they recommended to their respective governments that disaster aid be given to Tunisia.

Following the recon flight, the USG furnished five U. S. Army Engineers stationed in Germany to survey bridge, highway and railway damages. They arrived in Tunis on October 2, bringing in the plane with them 50,000 ccs of typhoid vaccine, an additional 1,210 blankets, and 110 canvas cots.

USAID purchased 40,000 items of cooking and eating utensils from a local aluminum factory, including plates, cups, kettles, spoons, and primus stoves, and donated them for the disaster victims.

Meanwhile, 200,000 disposable needles and 248,000 doses of typhoid vaccine were requested to be airlifted from the U.S. AID/DRC made arrangements for their purchase from the Defense Supply Agency and commercial sources. They arrived in Tunis about the middle of October. A later request for 400,000 more doses of typhoid vaccine was received. AID/DRC obtained it from DSA and it was delivered by air on November 14, and the two ped-o-jet inoculators arrived on November 15.

On October 7, truck traffic to the country-side was at a standstill. Supplies were building up in Tunis but it was impossible to send them to the flood victims because it was raining heavily and road communications were cut. In response to a request from the Foreign Minister, the Ambassador called for U. S. military search and rescue helicopters. On



Loading relief supplies at Tunis on US helicopter for delivery to flood victims.

October 8, three HH3 (Jolly Green Giant) USAF helicopters from Wheelus Air Force Base and 2H-46 Navy helicopters arrived and were used intensively during the next seven days in search, rescue, reconnaissance and delivery of emergency supplies. They flew approximately 200 missions, carried 240 passengers and 125 tons of supplies. They encountered some people that had gone over two weeks without food and others who had nothing to wear. They took food and clothing to them.

Although the helicopters were released when the waters receded, a third major storm again immobilized overland transport and on October 25, the three choppers were redeployed. They concentrated their activities in the Kairouan Gouvernorat. During this second mission consisting of approximately 10 days, the Mission Commander reported 227 sorties, 2,083 saves, 750 victims evacuated, and 118,566 pounds of cargo delivered.

On October 3, the Government of Tunisia made a formal request for U. S. assistance in restoring bridges. The Tunisian Government recalled the Bailey bridge donated and installed by the USG in three weeks following the disastrous 1964 flood and made a special plea for similar assistance. The U. S. Mission indicated it would respond to this request upon completion of the U. S. military team survey, which team had arrived in Tunis on October 2. The survey was completed October 6. The team reported that four bridges were needed to restore rail traffic linking Djerrissa Iron

Mines and Kalaat Djerda Phosphate deposits to port of LaGoulette. The U.S. Mission determined the USG contribution should be the restoration of three of the rail bridges on the line with the fourth to be handled by the Government of Tunisia. This recommendation was made to AID/W on October 16 by the American Ambassador. It called for the USG to provide the necessary Bailey bridging, erector sets, equipment and transportation from the U.S. as well as a 100-man installation team from the U. S. military in Germany, at an estimated cost to AID of \$1 million. AID/DRC and Tunisia desk officers in Washington initiated necessary fiscal documents to establish this funding level, which were approved by the AID Administrator.

At first the request was for seven Bailey bridge spans, and eight erector sets, plus jack rack bars and auxiliary equipment. Five more sets of bridge components and parts were requested later because twelve sets were actually required to complete three complete bridges. John H. Street, Deputy Disaster Relief Coordinator, working with Col. Clyde Bell, Department of Defense Foreign Disaster Relief Coordinator, arranged with Mr. H. Thompson of Army Materiel Command for purchase and delivery of the bridging material.

A special train of 37 cars and 9 trucks brought the first seven sets, eight erector sets and necessary installation equipment to Bayonne, New



Unloading Bailey Bridges at La Goulette

Jersey, on October 30. They were loaded on the American Export Isbrandtsen Lines vessel "Export Ambassador" on November 3 and 4, and arrived in port LaGoulette on November 18. Mr. Street and Mr. Thompson went to Bayonne to observe the loading of this first shipment. The remaining five sets arrived in 27 railroad cars at Bayonne on November 25. They were loaded aboard the SS Exporter November 29/30, and arrived in LaGoulette on December 17. A platoon of three U. S. military officers and 97 enlisted men arrived in Tunis from Germany between January 12 and January 22 to install the spans.

On March 13 the following cable was received from Tunis: *"Reconstruction of the three bridges on the railroad line from Tunis to Kalba Djerda completed on February 20. Railroad services from mines to Tunis started week of February 22. The return of troops and equipment to Germany started March 5 and completed on March 7."* Another cable also reported the completion of the bridges and went on to say that all other damage on the line has been repaired by the Tunisian Railroad Company; that traffic was moving normally from iron ore mine at Djerissa to port of LaGoulette at the rate of 12 trains per day each carrying 900 tons of ore.

U. S. Government PL 480 food was provided through diversion from U. S. voluntary agency stocks and loans from World Food Program stocks already in Tunis, and also through a special grant to WFP for emergency food assistance to the flood victims:

U.S. volag stocks - CARE, AJJDC, CRS:

1,079,000 lbs flour; 821,000 lbs nonfat dry milk, 441,000 lbs vegetable oil; 148,000 lbs butter; 112,000 lbs bulgur; and 10,000 lbs rolled wheat with estimated value of\$ 503,930

Borrowed from WFP Project #294:

1,320 metric tons wheat converted to 1,000 of flour and 100 metric tons flour, estimated value of 119,628

AID/W Special Grant to WFP for Flood Victims

On October 24, 1969, the Director-General of FAO approved a request by the Government of Tunisia for World Food Program emergency food assistance for a six-month period for 100,000 persons. WFP agreed to supply 9,576 MT of wheat, 540 of dried milk, and 540 of edible oil, but asked the U.S. to contribute the total requirements for these commodities. The U.S. Mission felt WFP should seek emergency participation from other member donors and that USG contributions should be channeled through the voluntary agencies in order to simplify distribution and reduce overlapping. WFP reported that pledge supplies of the other commodities were exhausted; therefore, they did not plan to approach other donors for additional supplies, thus leaving the U.S. the only supplier for this emergency. WFP also stated that if all food supplies were being channeled through the NCSS or other GOT facilities on a pooled basis, they were agreeable to their commodities being distributed in the same manner. AID agreed to make the requested commodities available through WFP.

Aggregate total of 10,656 MT wheat, dry milk, edible oil with estimated market value of	\$1,106,000
Ocean transport	515,000
	<u>\$1,621,000</u>

WFP estimated its expenses for the project at \$1.9 million.

Rehabilitation

After the emergency phase of the flood disaster was over, the GOT was still in need of assistance in restoring major highways to service. It requested further aid from the USG, and the U. S. Mission recommended that AID contribute to this rehabilitation phase. AID/W approved of this, and necessary funding arrangements were worked out by Mr. James Brooks and Miss Gilda E. Varrati, AID Tunisia Desk personnel. It was agreed that the U.S. would provide another military engineering survey team of five men, a military 100-man working party for 60 days, necessary highway Bailey bridging and installation equipment, and transport. For this purpose a funding level was established of \$1 million.

Recap of USG Assistance From Disaster Relief Funds

From U.S. military sources (CINCEUR):

Supplies--water purification tablets, vaccine, injection kits, blankets, cots, packing, handling, air transport..	\$30,000
C-130 reconnaissance mission	2,440
Engineering survey plans, personnel costs, per diem, travel	14,403
Wheelus helicopter service and per diem for crews	<u>79,225</u>
	\$126,068

From USAID/Tunis:

Purchase of kettles, stoves, ladles, utensils	\$24,882
Panification of bread	769
TDY/transportation for 1 technician of CONFAIRMED Naples..	300
Air transportation for Hope Foundation Team Monastir-Tunis	69
For photographs, laundering of blankets	285
Miscellaneous expenses	3,000
Air transport of candy donated by U.S. military families from Wheelus AFB	<u>30</u>
	29,335

From United States:

DSA--600,000 doses typhoid vaccine, 40,000 disposable syringes, two ped-o-jets	
Wyeth--48,000 doses typhoid vaccine	
Beckman, Dickinson & Co.--200,000 disposable needles	
Plus air transportation	<u>26,170</u>
	\$181,573

Recap of USG Assistance for Special Construction Project

From CINCEUR:

Engineering Survey	\$ 8,000	
100-man engineering and installation team (represents 2 purchase orders, one for \$20,551; the other \$34,840)	55,391	\$ 63,391

From United States:

Army Materiel Command--1st shipment Bailey bridging including 7 spans, 8 erector sets, jack rack bars, installation equipment, ocean transport	\$ 440,000	
AMC--2nd shipment Bailey bridging including 5 spans, accompanying installation equipment, ocean transport	300,411	740,411

PL 480 Title II food commodities 2,244,558

Rehabilitation project--highway restoration 1,000,000

TOTAL USG CONTRIBUTIONS \$4,229,933

President Bourguiba of Tunisia personally thanked U. S. Ambassador John A. Calhoun and members of the U. S. staff and expressed his deep personal gratitude to the U. S. for all that had been done to assist Tunisia during the flood catastrophe.

Ambassador Calhoun sent the following message on termination of the U.S. airlift support. *"My sincere thanks to all commands who participated in this emergency airlift operation. Navy and Air Force personnel involved reflected great credit upon themselves and the military and naval forces of the U.S. The rapid and effective response much appreciated by the GOT, which was again reiterated to me today by SECGEN of Foreign Ministry Essaafi. Members of U. S. Mission staff join with me in a warm expression of thanks for a job magnificently performed on behalf of USG and Tunisia."* Ambassador Calhoun, in another communication, also expressed his gratitude for the excellent backstopping by AID/W on this disaster, and USAID Mission Director commented in a letter to AID/DRC: *"In closing, I wish to tell you how much we appreciated your sympathetic response and prompt action to our various requests for relief assistance during this flood disaster. We have all been greatly impressed with the efficient support received from your office."*

Appraisal by the U. S. Mission on USG Assistance and Volags (from 2 reports)

"Without question, the assistance to date which had the most impact was the helicopter search and rescue operation. The fact that American crews and machines were directly engaged in this relief activity made it readily identifiable to the disaster victims themselves as American assistance. They came 'to the rescue' at a time when the situation was desperate and they rendered a very urgent service."

"The vaccination program has also proved notably successful not only in preventing a typhoid epidemic to date but also as a demonstration of effective multigroup participation. Careful planning among USAID and Ministry of Health officials resulted in a well-organized, smoothly running campaign which attracted the participation of U. S. voluntary agencies, other donor nations and international organizations. Again, as with the helicopter airlifts, the involvement of American personnel in the actual field operations provided that direct contact between Americans and the recipients."

With regard to the railway reconstruction project. *"...It represents by far the largest financial input of the U. S. disaster relief efforts in Tunisia and the early commitment of one million dollars to this project probably helped to influence some of the other countries who are now assisting Tunisia in reconstruction projects."*

"In addition to the rapid use of U.S. material and personnel, we injected an element of training in our efforts. Tunisian teams were trained by the volag and HOPE medical teams to organize and give vaccinations on a mass scale. Tunisian engineering cadres in the Tunisian Army will be instructed in the installation of Bailey bridges, when work begins on the northern rail line, and on the roads...We have participated directly then in improving Tunisia's self-help capabilities. Some of the skills so learned, and the personnel so trained will continue to contribute to Tunisia's development even though the disaster has been put behind."

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND OTHER U.S. ASSISTANCE

CARE/MEDICO

Within a few days after the floods began, CARE/MEDICO had a team of one doctor and three nurses in the field participating in the typhoid vaccination program. This team was fielded in full coordination with USAID and the Ministry of Health, who equipped it with the vaccine and syringes donated by the USG and assigned the team to the Le Kef-Djendouba region. Working with regional health administrators, the team concentrated on training local vaccination teams. They trained and equipped 23 teams who were then sent to outlying villages. By the time the team returned to its normal medical program in Tunis on or about October 31, 65,000 people had been vaccinated in the Kef-Djendouba region.

CARE also diverted PL 480 food commodities from its regular program stocks. CARE enlisted the financial support of OXFAM and programmed a local currency purchase (US \$7,198 equivalent) of cooking and eating utensils and shipped from England 6,200 blankets, 410 bales of clothing, and an assortment of canned foods. The total value of this CARE-OXFAM assistance, including locally purchased goods, freight, and handling charges is \$42,450.

CARE opened a field office in Le Kef and assigned an American staff member to oversee the programming and distribution of these goods.

In the realm of longer term assistance, CARE began a pilot project in the reconstruction of wells and the installation of pumps in wells condemned by the Ministry of Public Health. It is also exploring a possible housing reconstruction program.

American Jewish Joint Distribution Committee

AJJDC was in the most favorable position for providing USG donated PL 480 food commodities. It not only had the largest stocks among the voluntary agencies but its food was located in Sfax which was completely cut off from Tunis, except by air or sea, throughout the entire duration of the disaster. From the AJJDC warehouse in Sfax, the hard hit Gouvernorats of Sfax, Gafsa, and Sousse, as well as flooded pockets in the Southern Gouvernorats of Gabes and Medenine, could be supplied without waiting for deliveries via the limited supply lines by air and sea. The one million pounds of food shipped out of its Sfax warehouse not only eased the tremendous transport problem but for many poor and homeless people it meant they received food when they needed it.

From its own resources AJJDC turned over 7 tons of cheese and 2,000 items of clothing for the flood victims, valued at \$ 8,000

The AJJDC representative in Sfax, a Tunisian national, worked intensively with the local authorities in moving out relief supplies to the flooded area.

Catholic Relief Services

CRS released PL 480 food commodities from its in-country stock for emergency relief.

CRS also brought in a shipment of 598 bales of clothing, valued at \$79,000

Project HOPE

The Hope ship had only arrived in Tunisia a short time before the disaster occurred. When the Hope medical personnel were approached by the U.S. Mission and the Tunisian Government to assist in the typhoid vaccination program, they promptly sent three teams to help organize the campaign and train Tunisian vaccination teams. Each Hope team consisted of a doctor, two nurses, and a driver. Each team was assisted by a Peace Corps volunteer. The Hope teams started in the Gafsa Gouvernorat where they trained vaccinators, assisted in sanitary improvements and tested and treated water supplies. After about 15,000 people had been vaccinated they moved on to the Gouvernorat of Sousse. There they trained 16 Tunisian vaccination teams including two in operating the WHO-supplied ped-o-jets. After approximately 65,000 vaccinations had been accomplished here and the program was functioning smoothly, the Hope teams returned to resume their regular medical activities on the Hope ship in Tunis.

Church World Service

Although CWS does not have a regular program in Tunisia, it sent 356 bales of clothing valued at \$47,000

Transportation, other incidental charges pertaining to this shipment of clothing	\$	4,677	
	\$	<u>51,677</u>	

American Red Cross - cash donation 5,000

U. S. Labor Unions

U.S. labor unions sent letters of sympathy and contributions as indicated through the UGTT (labor union in Tunisia) for the flood victims.

AFL/CIO - cash donation	\$	1,000	
UAW - 2 proton jet inoculators (est. by DRC \$900 each); and also sent 550 cartons of vitamins (value unknown)		1,800	
UMW - cash donation	<u>500</u>		\$ 3,300

U. S. military personnel and families from Wheelus Air Force Base donated 600 pounds of candy for children of flood victims. Value not reported but estimated by DRC at 300

Total, U. S. Voluntary Agency and other U.S. Assistance\$ 189,727

ASSISTANCE BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

Governments of the Federal Republic of Germany, France, Belgium, and Spain made major contributions in reconstruction of rail and highway bridges, and 41 other nations contributed to the emergency relief effort.

The following includes Governments, Red Cross Societies, Other Private Donations:

Algeria - 488 tons food, blankets, clothing, disinfectants, medicines	\$		58,000
Australia - cash			1,140
Austria - disaster supplies			3,480
Belgium - 2 1/2 tons baby food, antibiotics, tents, blankets	\$	1,820	
5,000 tons wheat		218,500	
Engineering Team (40 men) for Sfax-Gafsa line		?	219,320
Bulgaria - disaster supplies			7,540
Canada - cash and supplies			41,270
Czechoslovakia - supplies			14,080
Denmark - 200,000 vitamin tablets and cash			21,740
Finland - cash and supplies			151,320
France - 4,390 blankets, layettes, clothing, food, 5,000 dinars	\$	24,300	
4 helicopters & 2 transport planes, crews (est. by DRC)		75,000	
Army Eng. Corps team (80 men) w/earth-moving equipment		?	99,300

Fed. Republic Germany - supplies	\$ 13,700	
cash grant for emergency relief	1,235,000	
10T dry milk, 25T clothing	62,500	.....\$1,311,200
Long term loan \$1,235,000 for civil eng. needs in Kairouan region including eng. team (65 men), Bailey bridge components sufficient for 6-8 bridges.		
Dem. Rep. Germany - 20 tents, 1,000 blankets, medicaments, and water disinfectants		15,700
Great Britain (including Red Cross, Government, Oxfam, Save the Children Fund, Christian Aid, and War on Want) - cash, blankets, tents		52,400
Hungary - supplies		7,900
India - supplies		400
Iran - cash, food, blankets, clothing, typhoid vaccine		32,040
Iraq - 9 tons tents, medicines, rations		28,180
Ireland - cash		1,190
Italy - 5,000 articles clothing, 3,800 blankets, medicines and other supplies		122,090
Japan - supplies		980
Jordan - cash		280
Korea - supplies and cash		650
Kuwait - 100,000 dinars and 1,000 British pounds, 300 tents, 5,000 blankets, 2,500 kg. medicines, estimated		237,000
Lebanon - cash for tents		300
Libya - rations, blankets, medicines		3,420
Liechtenstein - cash		3,420
Luxemburg - cash		230
Monaco - cash		260
Morocco - use of 4 helicopters, 50 tons clothing, blankets, tents, food, medicaments		150,000
Liberia - cash		15,000
Netherlands - 600 kilograms medicaments, vitamins, 300 blankets, 10,000 sandbags, food, 7500 dinars		55,380
New Zealand - cash		1,100
Norway - cash and supplies		39,380
Poland - supplies		3,330
Portugal - cash		170
Palestine - medicines, personnel (2 engineers, 2 doctors)		*
Romania - tents, blankets, food, medicaments		8,330
South Africa - cash		270
Spain - 650 blankets, tents and food	\$ 5,000	
450 tons of rails	*	
Engineering Team (80 men), one Bailey bridge to reconstruct road and rail bridge at Sidi Bou Ali between Tunis and Sousse and Sousse-Kasserine RR	*	5,000
Sweden - cash, blankets, tents, food, clothing, water purification tablets, typhoid vaccine, housing		179,434
Switzerland - cash, 100 tents, pumping units with pipe and generating units, 4 transmitter-receiver sets		18,000

Syria - cash	\$	780
Turkey - food, medicine, vaccine, tents		21,950
USSR - cash for food, blankets, medicines		22,800
Yugoslavia - 500 blankets, supplies		3,670
Private donations		40
International Organizations		
ICRC - supplies		5,230
LICROSS - 2,000 blankets, 100 tents, 900 tons food, medicines; also sent experts assess needs and stationed representative in Tunis (est.)		116,000
World Council of Churches - 1,500 blankets, 800 family tents, 35 tons food and medicines, cash		82,950
UNESCO - cash		340
International Union of Child Welfare - cash		2,890
UNICEF - 750,000 multiple vitamin tablets, 1 million Vitamin A&D, 10,000 ampules penicillin, other medicine, 600 blankets		8,000
WHO - 2 ped-o-jets and epidemiological team, 100,000 doses typhoid vaccine		*
OXFAM - See under Great Britain and also under CARE in U.S. Voluntary Agency section		
		<u>\$3,174,874</u>

* Incomplete or not reported.

UPPER VOLTA

CHARACTERISTICS OF THE DISASTER

EVENT: Drought/Famine

DATE: 1969

LOCATIONS: Areas east and north of Ouagadougou and southern part of the country bordering Ghana

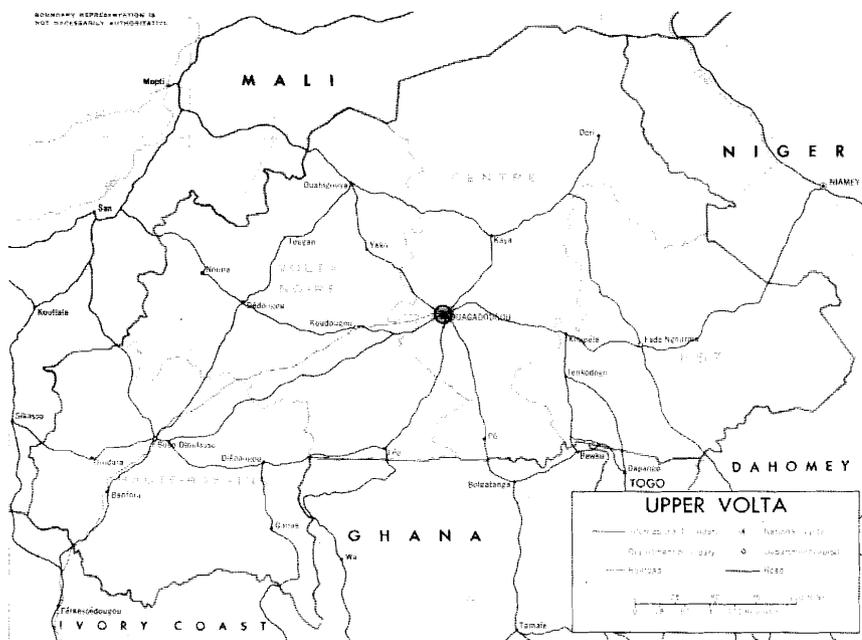
DISASTER VICTIMS: People Requiring Food Assistance
2,120,000

DESCRIPTION OF THE DISASTER:

Serious food shortages were reported developing in Upper Volta as far back as April of 1969. The famine situation was brought on by the same drought problem which was plaguing other countries across western Africa.

The annual rainy season should have begun in May 1969 but by June there had only been a few scattered showers. Early plantings by the people were germinated by these showers but died when sustained rains failed to materialize. Up to four planting failures of this type occurred in some areas. This further depleted food grain stocks from the last crops that

had themselves been below normal. Results of a survey in the most seriously affected areas indicated the majority of the people were subsisting on leaves and bark. There were even some reports of starvation in the northeast section of the country.



ACTION TAKEN BY THE GOVERNMENT OF UPPER VOLTA:

Small supplies of millet were available at major market centers, but the selling price was three times normal and twice the official control rate.

By July the Government of Upper Volta had distributed 835 tons of millet from official stocks. The Government could no longer provide sufficient food from its own resources or cover the cost of food distribution. It requested the U. S. Government to provide 20,000 tons of cereals and sought assistance from the World Food Program and France as well.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

An urgent request to the USG for food grains was received the latter part of June, but because of the lead times required in supplying the commodities, it was mid-August before these supplies reached Ouagadougou for distribution to the emergency areas.

On August 7, the Charge' declared that the magnitude of the drought was such as to warrant the use of AID contingency funds for disaster relief. Accordingly, he authorized disbursement for actual costs of storing, handling, guarding and transporting P. L. 480 Food for Peace cornmeal donated by the USG, which amounted to.....\$ 19,200

P. L. 480 Food Grants through Catholic Relief Services

963 tons of cornmeal; 1,200 tons of rice, estimated market value $\frac{\$224,280}{\$243,480}$

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services diverted the 963 tons of cornmeal from its ongoing programs and agreed to assist the Government of Upper Volta in the distribution of the cornmeal and also 1200 tons of rice.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

France - 6,622 tons of wheat but delivery was made in the fall.
Value was not reported but estimated by AID/DRC at..... \$440,000
Netherlands - supplies..... 1,400
United Nations Development Fund - paid distribution costs for
the 1200 tons of rice donated by the USG..... 14,400
World Food Program - 900 tons of millet, valued estimated by DRC $\frac{60,000}{\$515,800}$

ROMANIA

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

DATE-TIME: May/June 1970

LOCATION: All 39 counties but especially the northern sector of the country.

DISASTER STATISTICS:	<u>Killed</u> 215	<u>Injured</u> N.A.	<u>Homeless</u> 238,755
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DAMAGES:	<u>Flooded</u>	<u>Destroyed</u>	<u>Damaged</u>	<u>Lost/ Dead</u>
Homes	89,245	12,050	27,219	
Other Buildings	21,042	8,238	3,938	
Bridges		571	569	
Footbridges		1,252	1,356	
Asphalt roads (kilometers)		78	396	
Gravel roads	"	589	2,001	
Rail lines	"	115	997	
Electric lines	"	266	1,863	
Telephone lines	"	354	629	
Poultry				91,399
Animals				39,028
Hectares flooded	1,094,203			
Of which amt. arable	588,374 *			
Land lost in slides (hectares)				20,645
Productive units	294		162	

* The arable land flooded represents 6-7% of the nation's total arable land and accounts for 15% of the farm output. Total agricultural loss estimated at 10%.

By affecting both key sectors of industry and agriculture, the floods had an adverse effect on the country's balance of payments.

Loss of crops and fodder were expected to have a negative impact on the next winter's food supply.

Total estimated dollar damage - \$500 million.



Beginning on the night of May 11-12, the waters of the Muresul and Somesul Rivers, fed by rapidly melting snows and torrential flash rainstorms, swelled to unprecedented levels. As flooding continued, these rivers in turn fed tributaries and eventually the Danube River itself. All Romanian rivers at one time or another during the month overflowed their banks. Destruction occurred in most of the country's northwest (Transylvania) during late May. Herculean diking efforts by the Romanians stemmed the tide at two key areas--Braila, where at least 85,000 reclaimed hectares hold rich agricultural crops, and Arad where, had the waters broken through, the entire Banat agricultural region might have been inundated.

In early June a second inundation occurred in Transylvania from the Somes and Mures Rivers. Moldavia was also affected by the flooding Siret and Prut Rivers. The expected June 4-5 crest of the Danube did not materialize to the extent feared but some flooding extended into counties alongside the Danube. The following week new torrential rains along the Carpathian range resulted in a third wave of flooding in the towns of Transylvania. For the third time Satu Mare was under water. While most of the damage was in the north of the country, all 39 of Romania's counties experienced flooding. There were 90 localities completely flooded, four of them twice and 1,502 partially flooded, 221 of them twice and 37 three times.

Numerous landslides occurred during the flooding period. Localities particularly affected by the earth slides were those situated in the hilly regions in the radius of Bacau county, where 640 houses were destroyed, and in Vrancea county, where over 220 houses and public buildings collapsed.

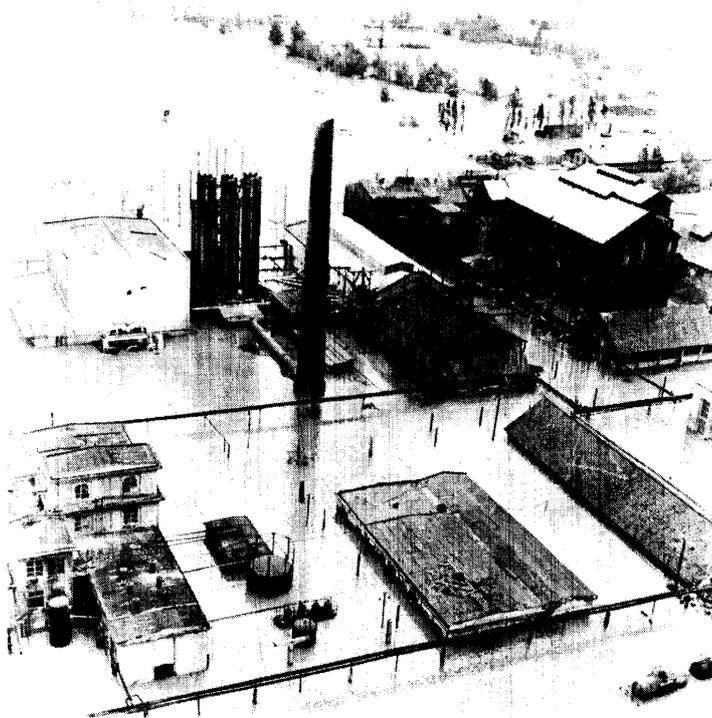


Aerial view of portion of Satu Mare

The slides also caused the displacement of scores of hectares of forest. A whole village, Lacu lui Baban, had to be removed from the map of Vrancea county. In that village, 182 houses collapsed in a few days. There was a total of 20,645 hectares of land lost in the slides.



Homeless victims Satu Mare



Factory destruction, Tirgu Mures



Flooded housing in Tirgu Mures

ACTION TAKEN BY THE GOVERNMENT OF ROMANIA AND LOCAL ORGANIZATIONS

A committee subordinate to the Council of Ministers, the "Central Commission for Defense Against Floods," was created to supervise overall relief efforts. Subordinate to this commission were local county committees, the Ministry of Agriculture's permanent Department of Land,



Flood victims quartered in tents

Water Management and Reclamation and also its Commission for Defense Against Floods and Freezing. The Ministry of Agriculture enlisted other officials to channel agrarian aid. The Ministry of Health organized the distribution of medical supplies. The Romanian Red Cross made an international appeal for assistance through the League of Red Cross Societies and supervised contri-

butions in general. A "Command Center" with representatives of each of the above organizations was created to serve as a task force and to coordinate these units. Additional aid from people or enterprises in relatively unaffected areas of Romania, such as Bucharest, could be contributed directly to specific regions or organizations in the flooded areas. The severity of the floods caused the Romanian Government to appeal to other governments for assistance, including the United States. For political reasons, however, outside help in the form of volunteers was not accepted, and Romanian diligence and organization provided for adequate disaster relief. Romanian coordination of purpose and action was obvious throughout and probably saved many lives. The aid



Distribution of clothing



Truck caravan with prefabricated temporary shelters destined for Satu Mare County

contracted for free work to compensate for that production time lost in factories affected by the floods. This self-help was one of the most impressive aspects, as observed by foreign diplomats and by President Ceausescu. Value of aid provided by the Romanian Government was not available.

President Ceausescu took personal direction of the construction of a make-shift five-mile dike at Galati. Wearing a black turtleneck sweater,



Relief caravan to Mures County

given by the Romanian Army was well coordinated with civilian activities.

As of August 3, 1970, self-help cash donations from Romanian citizens amounted to \$4,166,667. Additionally, large quantities of food and clothing were contributed and distributed. Many workers gave at least a month's salary in aid or con-

a farmer's jacket and cloth cap, he supervised work on the earth and timber dike the night of May 23.

The "Command Center" was dissolved after the emergency phase of the relief operations, but other units remained, including the "Central Commission for Defense Against Floods."



*Distribution of relief eggs
by Romanian soldiers, Satu Mare*

Some criticism was expressed in Romania concerning weather forecast technology and erosion control.

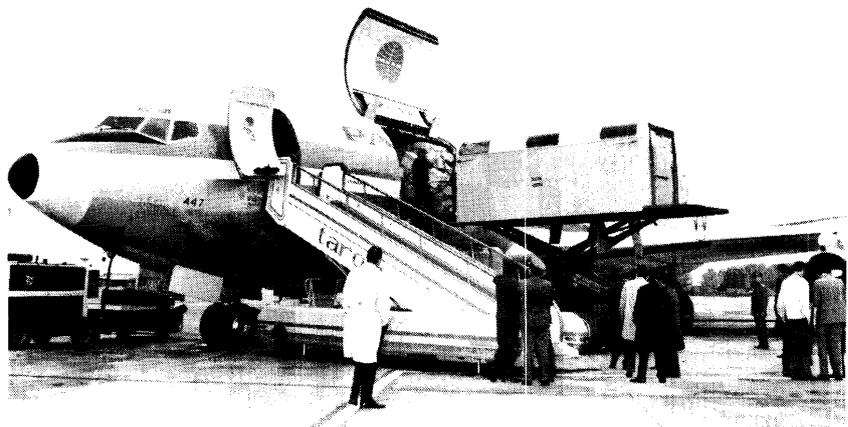
ASSISTANCE PROVIDED BY U. S. GOVERNMENT

On May 16, only a few days after the magnitude of early flood damage became apparent, President Nixon sent a telegram of concern and sympathy to President Ceausescu. On May 17, the American Ambassador declared a disaster had occurred of a magnitude to warrant U. S. assistance; exercised his \$25,000 disaster relief authority; requested AID/W approval for additional relief funding; and submitted a list of priority needs as

presented to the Ambassador by the Government of Romania.

A PanAm Boeing 707 arrived in Bucharest at 5:30 p.m. Romanian time on May 21 with the first U. S. contribution for flood victims, consisting of 2,500 blankets and 1,000 tents. The second PanAm chartered aircraft arrived in Bucharest on May 28 with USG-donated cots, additional blankets and medical supplies, as well as American Red Cross donated items. The USG was among the first countries to charter aircraft to deliver disaster supplies.

The continuing floods, increased number of disaster victims, additional severe damage to



First US relief flight arrives in Bucharest



Setting up American relief tent, Satu Mare

agricultural crops, new seeding and equipment resulted in further requests for U.S. assistance in emergency relief and rehabilitation. USAID approved contributions of P.L. 480 food commodities through FAO/World Food Program.

Embassy officials assisted in receiving and evaluating GOR requests for aid and worked closely with Agricultural Attache Ehman (assigned to Embassy Belgrade), and with Messrs. Frank Ellis (AID/W/FFP), and Rulon Gibb (USDA), who were detailed to Bucharest to study the problem of USG assistance related to agricultural damages.

Recommendations of the Embassy and of AID FFP and USDA resulted in further USG donations consisting of vegetable seeds, two varieties of alfalfa seed, and bovine artificial insemination equipment, as well as P.L. 480, Title II, Food for Peace grants and CCC credit to purchase soy.

The alfalfa seed and bovine artificial insemination equipment were approved within the



Counselor of US Embassy, Harry G. Barnes, Jr., presents USG-donated blanket to Deputy MOH Mares in the presence of PanAm captain and Ministry official.



Example of flooded agricultural unit at Satu Mare

disaster relief 60-90 day regulations, but because of delay in determining specifications by Romanian officials, purchase and delivery orders could not be placed until September 1970, with actual delivery of this assistance being made in October 1970.

Following is a summary of emergency and rehabilitation relief by the USG:

1,000 tents, 5,000 cotton blankets, 1,000 cots, medical supplies purchased by AID/DRC and internal U.S. transport	\$147,307	
Two charter airlifts by PanAm for above supplies plus American Red Cross donated supplies, plus additional air shipment medical items	45,405	
Reimbursement to the UAW for air transport cost of donated medicines	2,939	
Reimbursement to CWS for air transport costs for donated medicines	1,631	
18,423 lbs. of onion, cucumber and tomato seeds	22,090	
Airlift cost of seeds to Frankfurt, Germany, July 1 (forward to Romania by truck, latter paid by GOR)	6,817	
Purchase and air freight delivery of bovine artificial insemination equipment	365,000	
Purchase and surface delivery of approximately 355 metric tons of Ranger certified alfalfa seed	385,000	\$ 969,771

P.L. 480 food:

Commodities through FAO/WFP--7,125 tons of flour, 1,425 tons of nonfat dry milk, and 570 tons of vegetable oil, ETA Constanta July 23-28 and Sept. 13, valued at\$ 2,100,000

Title II grant of 70,000 MT barley and 30,000 MT oats, valued at 5,490,000

Plus U.S. payment at least 50% of the cargo required to be shipped on U.S. vessels.. 2,500,000 \$10,090,000

CCC Credit, to be used to purchase soy bean seed..... + 1,500,000
\$11,590,000

The American Embassy reported expressions of appreciation by Romanian officials on U. S. assistance on several occasions. One of these is quoted below concerning the arrival of the first shipment of supplies from the U. S. which was accepted on behalf of the Romanian Government by Dr. Eugeniu Mares, Deputy Minister of Health and Coordinator of Foreign Assistance: *"We greatly appreciate your help...especially the speed with which you reacted. Your kindness and expression of sympathy will be long remembered."*

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES

American National Red Cross

5,000 units gamma globulin, 2,015 cartons of multivitamins, 810 cartons of aspirin, and 30 cartons of rubber boots\$ 98,773
Cash grant through LICROSS 10,000
Cash grant from Junior Red Cross 1,000 \$ 109,773

Church World Service (in response to World Council of Churches appeal)

Medicines 16,134
Cash 5,000 21,134

Lutheran World Relief (in response to WCC appeal)

Cash 10,000

United Auto Workers (through Direct Relief Foundation)

Medicines 14,000

American Jewish Joint Distribution Committee

Cash donation reported of 30,000
\$ 184,907

The Romanian Orthodox Missionary Episcopate in America (Detroit, Michigan)

As soon as the scope of the floods in Romania was known, the Romanian Orthodox Missionary Episcopate in America set up a Committee for Helping the Disaster Victims in Romania and launched an appeal to all American citizens belonging to their Episcopate. At the same time they reached an agreement with the Romanian Orthodox Patriarchate in Bucharest which established that all the goods and money collected by them would be distributed to the people through the channels of the Romanian Orthodox Church. This group collected 29,000 pounds of clothing, blankets, bed linen, medicine and canned goods and more than \$29,000 in cash, for a total contribution of about\$60,000

The supplies were airlifted to Romania through London by PanAm free of charge and the money was transferred to the Romanian Orthodox Patriarchate in Bucharest through the National Bank of Detroit.

The Romanian Orthodox Episcopate of America (Jackson, Michigan)

Although similar in name to the above, this is a separate organization. This group, together with the Union and League of Romanian Societies in America, Inc., and other organizations collected funds in behalf of the flood-devastated Romanian people. They wished to send material aid rather than cash and sought the assistance of AID/DRC on what this should be, based on the most urgent needs. It was determined that because seed production losses had been so great, money raised by this group could best be utilized for seed wheat. AID Food for Peace Office and the U.S. Dept. of Agriculture advised on source and availability of the seed. Arrangements for purchase and shipment were to be made by R.O.E.A. Amount of money raised by this organization for this purpose\$62,000

60

122

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

Algeria - 1,000 blankets	\$	3,000
Argentina - Government		30,000
Austria - Government--cash	\$38,000	
Red Cross--clothing, shoes, gamma globulin, emergency kits, power units, water purification units, filters	21,870	
National Bank	5,800	
Trade Unions	2,000	
Union of Industries	7,700	
Save the Children	1,800	77,170
Australia - Government--cash	5,000	
Red Cross	550	5,550
Belgium - Government	100,000	
National Bank	10,000	
Red Cross--milk powder, baby food, analgesic tablets, penicillin, streptomycin	5,100	115,100

Brazil - Government--medicines	*		
Bulgaria - Government	\$	500,000	
Red Cross--medicaments, 31 tons			
food, 800 blankets, cash		<u>50,000</u>	\$ 550,000
Burma - Red Cross--cash			1,230
Canada - Red Cross--21 cases children's			
clothing, 3 cases layettes,			
cash		45,030	
Government--cash		<u>25,000</u>	70,030
Communist China - Government--50,000 tons			
coke, 5,000 tons cotton down,			
1,000 tons raw cotton, 150,000			
units pigskin, 100,000 units goat			
hide, 3,000 tons frozen pork,			
3,000 tons frozen fish, 3,000 tons			
soy, 2,000 tons salted fish, 200			
tons dried milk, 300 tons powdered			
eggs, plus transport		21,000,000	
Red Cross--cash, milk			
powder, medicaments, other			
supplies		<u>416,000</u>	21,416,000
Chile - Government			3,000
Congo (Kinshasa) - 20 tons coffee,			
20 tons tea (Government)--value			
estimated by DRC at WFP value			
\$1200 ton			48,000
Cyprus - Government--cash			2,400
Czechoslovakia - Red Cross--supplies			
and cash		63,240	
Cooperative Union--			
cash		<u>10,000</u>	73,240
Denmark - Red Cross--medicine, milk			
powder, vegetable seeds,			
medicaments and cash		101,500	
Government-- cash		27,000	
Copenhagen City		<u>6,700</u>	135,200
Egypt - Trade Unions-- cash			12,700
Ethiopia - cash			1,200
Finland - Red Cross--gamma globulin, rubber			
boots, blue jeans, other clothing.		73,710	
Government--blankets, sheets,			
pillow cases, babyfood, clothing,			
medicines, cash		<u>46,240</u>	119,950
France - Red Cross--medicines, vaccine,			
medicaments, canned milk		3,840	
Government--100,000 quintals			
wheat (in US quintal = 100#)			
(valued using 100# estimated by			
DRC).....		300,000	
Government--cash		10,000	

	President Pompidou--cash.....	10,000		
	CGT-- cash	<u>1,000</u>	..... \$	324,840
Germany	D.R. - Red Cross--blankets, tents, medicines, disinfectants, food, vaccine, clothing	319,700		
	Trade Unions--cash	<u>109,200</u>	.....	428,900
Germany	F.R. - Government--cash	<u>13,600</u>		
	Red Cross --cash (\$265,000), medicaments, vitamins, shoes, clothing, blankets, food, water purification units, vehicle, electrogenic power units, house- hold equipment, clothing	436,210		
	Munich a.o. cities--cash	<u>10,900</u>	.....	460,710
Greece	- Red Cross--10,000 blankets, cheese, multivitamins, medicines, food			11,560
Hungary	- Government (credit) (\$200,000)			
Iceland	- Red Cross--milk powder, cash	1,270		
	Government--milk powder	<u>3,960</u>	.....	5,230
India	- Red Cross--clothing, medicaments, coffee	1,470		
	Government--1 ton coffee, tea (estimated by DRC)	<u>1,200</u>	.....	2,670
Iran	- Red Crescent--blankets, tents, medicaments, cash, food, clothing	61,370		
	Government--cash	<u>63,000</u>	.....	124,370
Ireland	- milk powder, canned meat, multivitamins			640
Israel	- Magen David Adom--milk powder, soya, medicines, cash	6,700		
	Government--medicines, dried milk, cash	<u>5,080</u>	.....	11,780
Italy	- Red Cross--food, clothing, blankets, coffee, milk, vehicles	19,080		
	Government--clothing, medicaments..	*		
	Rome a.o. cities--cash	<u>6,400</u>	.....	25,480
Japan	- Red Cross--medicines, other supplies, cash	12,200		
	Government	10,000		
	Parliament	<u>680</u>	.....	22,800
Korea D.R.	- Red Cross--cash			370
Lebanon	- 5 tons clothing, cash (clothing estimated \$1 per lb.)			10,050
Liechtenstein	- cash grant to League			1,160
Luxembourg	- cash			1,400
Mongolian P.R.	- Government--1 million tukricks (4 to \$1)			250,000
Monaco	- Red Cross--cash			360
Nigeria	- Government--cash			7,000

Netherlands - Red Cross--blankets, milk powder, baby food, medicines, disaster kits, cash	51,770		
Government--cash and about 5 million eggs (value eggs esti- mated by DRC about 50¢ dozen) ..	210,000		
Bank of Holland--cash	2,780	.....	\$ 264,550
New Zealand - Red Cross--cash	1,100		
Government--cash	5,000	.....	6,100
Norway - Red Cross--boots, food, blankets, cash	17,400		
Government--cash	14,000	.....	31,400
Pakistan - Government--cash			16,600
Poland - Red Cross--clothing, medicaments, tents, sleeping bags, blankets, clothing, shoes, babyfood, food..	66,970		
Cooperative Union--cash	104,000	.....	170,970
Spain - Government--cash			43,000
San Marino - Government--cash			4,800
Sweden - Red Cross--vitamins, medicines, gamma globulin, water purifi- cation tablets, babyfood, clothing, blankets, tents, shoes, layettes, meat and fish, incubator, respirator	284,070		
Radiohjalpen--cash to League for purchasing prefabricated houses	97,000		
Save the Children--cash	10,000	.....	391,070
Switzerland - Red Cross--milk powder, gamma globulin, rice, kidney beans, canned milk	41,000		
Government--cash	232,000		
Government and Red Cross--power units, food, dis- infectants, clothing, canned meat, chocolate cream, kidney beans, medicaments	125,490		
Geneva a.o. cities--cash ...	37,200	.....	435,690
Tanzania - Government--cash			8,500
Thailand - Red Cross--cash			480
Tunisia - Red Cross--1500 blankets			2,840
Turkey - Red Cross--clothing, medica- ments, sugar, blankets			16,560
United Kingdom - Red Cross--disaster kits, dressing material, gauze, bandages, vitamins, gamma globulin, etc.	8,620		
Red Cross, Christian Aid, OXFAM, Save the Children, War on Want-- tents, blankets, penicillin	23,950		

UK (Continued)

Red Cross and Save the Children--			
cash	312,000		
OXFAM--relief supplies	4,790		
Save the Children--2 tons children's			
clothing, baby food	21,830	.....\$	371,190
USSR--Red Cross (cash 50,000 rubles),			
medicaments, food, cloth, blankets..	105,800		
Government--building materials,			
food	*		
CENTROSUIUZ--cement, glass, slate ..	*	.....	105,800
Venezuela - Government--anti-typhus			
vaccine			*
Yugoslavia - Red Cross--cash (600,000			
dinars) and food, clothing,			
medicines, construction materials...	88,000		
Government--cash.....	40,000		
Government--25 tons wheat ...	1,700	.....	129,700
Zambia - Government--cash			10,000
			<u>\$26,362,420</u>

International Organizations and Others

Canton of Geneva - cash	\$ 2,510		
FAO.....	1,477,500		
UNICEF	20,000		
UN Secretary General	15,000		
International Union of Children Protection	11,620		
International Red Cross--relief supplies..	*		
Other Organizations, individuals, cash grants	5,910	.....\$	1,532,540

Protestant Churches Separately or Through World Council of Churches

Denmark--antibiotics, multivitamins,			
meat, 10 cement mixing machines			
and 10 generators	46,500		
Denmark--cash	43,900		
Germany, Das Diakonische Werk--300 round			
tents, 10 tons clothing	29,270		
Sweden, Lutherhjälpen--baby food,			
medicines	7,000		
Netherlands--medicines, water disinfect-			
ants, bandages	5,460		
Netherlands--cash	69,400		
Norway--107.5 kilos food, medicines, and			
105 tons fertilizer	116,970		
Switzerland, Heks--8 emergency generators,			
6 radiophones, 4.5 tons clothing	13,080		
Switzerland--cash	11,620		

Austria--cash	\$	5,000	
Greece--Athens church 18 tons clothing, 42,000 blankets		210,000	
Germany, Das Diakonische Werk--cash		50,000	
Great Britain--cash		12,000	
Australia, ICA		3,340	
Ecumenical Council--cash		10,000	
World Federation		7,000	
Secours Adventiste--cash		117,000	
<u>Jewish Organizations/Individuals</u>			
From all over the world		1,590,000	
<u>Catholic Churches/Organizations</u>			
Pope Paul--cash		10,000	
Germany--2,000 blankets, 25 tons clothes, 300 tents, sanitary material and chlorine tablets (jointly organized with Protestant Diakonische Werk) ..			
Austria--beds, mattresses, 10 tons clothing, 200 tons cement, 60 railway wagons for temporary shelter			
France--3 tons clothing, gamma globulin			
Netherlands--cash		2,700	
Italy--4,000 blankets and a huge quantity of medicines and chlorine tablets ..			
Switzerland--10 tons clothing, blankets, footwear, 10 tons milk powder and cheese			
France-Secours Catholique--vaccine and clothing, value		27,000	\$ 2,387,240
			<hr/>
TOTAL REPORTED CONTRIBUTIONS BY OTHER NATIONS			\$30,282,200

* Incomplete or not reported

YUGOSLAVIA

CHARACTERISTICS OF THE DISASTER

EVENT: Four Earthquakes
Epicenter for the one on October 27, 1969 - 44°N-17°E

DATE-TIME: October 26, 1969 - 1637 hours - Magnitude 5.2 Richter Scale
October 27, 1969 - 0911 hours - Magnitude 6.0 Richter Scale
December 4, 1969 - Magnitude 5.0 Richter Scale
December 31, 1969 - Magnitude 5.1 Richter Scale

Banja Luka area was hit by hundreds of minor quakes from October 26 to December 31, 1969, several reaching 4 or 5 degrees in intensity.

LOCATION: Bosnia-Herzegovina area - especially the City of Banja Luka and three surrounding villages.

DISASTER VICTIMS:	Killed	Injured	Homeless	Affected	
	14	1100	75,000	200,000	October 26/27
	1	16	10,000		December 31
	15	1116	85,000	200,000	

DAMAGES: 500 schools destroyed or damaged.
24 health centers destroyed including the 1500-bed regional hospital at Banja Luka
34 industrial plants ruined; 50 others damaged

The important industrial center in Bosnia-Herzegovina, with a gross income in 1967 of \$43.6 million was at a standstill, including the almost complete destruction of the \$80 million cellulose plant--the biggest employer in Banja Luka. It was estimated it would take 18 months and \$50 million to repair the plant.



DESCRIPTION OF THE DISASTER:

The following is quoted from the League of Red Cross publication "Panorama" dated October 1969:

Few people went to work or school on Monday morning, October 27, at Banja Luka, Yugoslavia. By an extraordinary quirk of nature the first warning of impending disaster came on 26 October,

on a crisp and sunny afternoon, when a major part of the population of this bustling Bosnian thermal resort and regional market and industrial centre was out of doors. The first earthquake hit at 3:15 p.m. Damage was widespread but relatively minor--500 dwellings were destroyed and a number were damaged.

With the approach of a chilly evening, however, some people returned to their homes, not realizing that the worst was yet to come. Others preferred to sleep under the stars. Local authorities and Red Cross were on the alert, and earthquake specialists confirmed their fears that new tremors could be expected. The news was broadcast by radio Banja Luka.

At 4 a.m. on the Monday a new and more serious warning came in the form of another tremor. Those who had returned to their homes fled in night clothes to join the more cautious in streets and parks, huddled around hundreds of camp-fires; a total of 250,000 people in the region spent a cold, sleepless night.

At 9:11 a.m., all hell broke loose. The earthquake registered at 8.5 degrees on the international scale of 12 (6.0 Richter), destroyed or gravely damaged 80 per cent of buildings in Banja Luka, a city of 65,000 population. A similar toll was taken in villages dozens of kilometers away.

Had nature not given advance warning, it might have been another Skopje or Agadir.

The October 27 earthquake in Banja Luka area was the worst experienced in Yugoslavia since the Skopje earthquake in 1963. While not as severe as Skopje, the destruction was of major proportions. As indicated above, the toll in human casualties might have been much higher if the first tremor on Sunday, October 26, and the lesser one early on Monday morning had not driven many people from their homes. The appearance of Banja Luka after the earthquakes was deceptive since most of the walls of the buildings were still standing. The earthquake moved in waves leaving some buildings entirely intact and undamaged. School buildings, but especially new apartment complexes, presented the sorriest spectacle. Although floors above ground seemed, and were indeed often unimpaired, the ground floors had sagged, cracked and disintegrated and, appearances notwithstanding, the buildings had to be torn down. Only a few of the city's 10,000 apartments were safe to return to. About 50% of the inhabitants of Banja Luka were evacuated to other areas, leaving some 30,000 to 35,000 living in the TENTOPOLI (tent city). The entire school system of an area of 250,000 inhabitants was disrupted as was the hospital center serving a much larger area.

On December 4, a new 5-degree earthquake occurred with the last of the tremors coming at 4:00 a.m. when the temperature was hitting a low of 10 degrees fahrenheit and snow was already a foot deep. Many residents of the region had been driven by the cold into buildings declared unsafe, but earlier tremors had given them sufficient warning and no injuries were

reported.

Again, on December 31 a fourth serious shock, registering 5.1 on the Richter scale, hit the area. At the time the region was suffering from the heaviest snows in 20 years. Many villages near the epicenter were inaccessible and contact had to be made by helicopters. Initial damage reports included one death from shock, 16 serious injuries, 4 rural schools destroyed and hundreds of homes badly damaged either by the earthquake or combination of the quake and weight of two to three feet of snow. By January 4, it was known that 2,000 families were urgently in need of new temporary housing. This earthquake also caused further damage to the almost destroyed viscose pulp factory and regional hospital. At the hospital center, the single remaining usable building was seriously damaged. New industries affected included a wood and a food processing plant.

ACTION TAKEN BY THE GOVERNMENT OF YUGOSLAVIA AND LOCAL ORGANIZATIONS:

Civil defense teams warned the populace to stay out of buildings after the Sunday, October 26, earthquake. News of this tremor reached Belgrade immediately. By the time of the second and more serious shock at 9:11 a.m. the following morning, a lorry convoy with 200 tents, a mobile kitchen, and a team of relief workers including doctors and first-aiders from the Serbian Red Cross Branch was already on its way to Banja Luka. Arriving there at mid-day they found a city in ruins, blanketed in a dust cloud, its population wandering in the streets. Yugoslav Red Cross President, Dr. Djura Mesterovic, arrived at Banja Luka that same afternoon to find first relief efforts had been organized on a massive scale by the Yugoslav Army, Civil Defense and Red Cross.

A 300-bed field hospital was set up by the Yugoslav Army. Tank trucks were rushed to the area with potable water. Army units set up generators, partially restoring power and lighting for some of the deserted streets. Evacuation of hospital patients was carried out after the Sunday, October 26, earthquake and before the stronger one on Monday and they suffered no serious injuries or deaths. All patients who could be were flown to hospitals in Zagreb or Sarajevo. Virtually all equipment and supplies were salvaged and moved to tents where temporary hospital operation was established to handle new cases.

Yugoslav rescue efforts were well organized and adequate to meet most immediate needs. A special fund was established for contributions to the relief effort and donations flowed in. Tents for most of the 30,000 to 35,000 Banja Luka citizens living outdoors were enroute to the area by October 29. Food, drinking water, blankets and other supplies poured in. Roads were jammed with traffic as help arrived from all over Yugoslavia. An 18-car train was sent by the Government of Yugoslavia to provide sleeping accommodations for 1,500 children and old people. It arrived early on October 28. Neighboring towns and villages sent truckloads of fresh bread.

Yugoslav engineers made rounds of standing buildings. They used paint of

different colors to mark each structure--yellow for those to be demolished immediately; red for ruins which should not be approached; and green for those which eventually could be repaired.

A Croatian Government delegation led by Vice President of the Executive Council, Dusan Reljic, visited Banja Luka on October 27, and a coordinator for relief efforts in Croatia was set up in the Office of Civil Defense in the Republican Secretariat for National Defense. President Tito visited the disaster area on October 29 to survey damages and observe relief operations.

By November 5, cash donations of 52 million new dinars (\$4.2 million) had come from domestic sources, plus tents, blankets, food and building materials of unknown value.

On November 7, an appeal made by journalists in Banja Luka for bricklayers and other craftsmen produced a turnout of several hundred volunteer workers over one weekend to work on housing construction. The idea was picked up by the Belgrade Craftsmen Association, which sent members for a second workers' weekend to build from 20 to 30 houses.

On November 13, it was reported that a Government proposal had been made to the Federal Assembly for \$35 million in immediate assistance to disaster areas to include: \$8 million grant to Bosnia-Herzegovina for general relief; \$8 million in special credits to enterprises in the area for reconstruction; and \$16 million credit to Banja Luka for reconstruction and housing of evacuated citizens, as well as diversion of certain federal taxes to local and regional governments of the affected area until the end of 1970, and postponement of enterprise debt payments.

Outside assistance was sought from other nations and through an international appeal to the League of Red Cross Societies. After emergency needs were met, the most urgent requirements were reconstruction of the hospital center, schools and temporary housing for at least 50,000 people. The destroyed Banja Luka hospital was the only medical center for about one quarter million population in Banja Luka and surrounding areas. Mobile medical units were also needed.

Reconstruction Program

On November 28, it was reported that the Yugoslav reconstruction program for the hospital center had been divided into three phases:

- First phase - In 1970 construction of prefabricated buildings for at least 600 beds.
- Second phase - Overlapping the first phase would be permanent reconstruction scheduled to begin in the spring of 1970; also plans for the new medical center scheduled for completion.
- Third phase - Actual construction of permanent hospital buildings to begin in the fall of 1970. As permanent buildings

are completed, prefab structures will be dismantled. It was expected, however, that some prefabs would be retained as auxiliary buildings for the permanent center.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

On October 28, a check for 300,000 new dinars (\$24,000) was presented by the US Charge', under the Ambassador's disaster relief authority, to the Yugoslav Red Cross to be used for emergency relief operations.

On October 31, President Nixon sent the following message to President Tito:

Permit me to extend to you and the people of Yugoslavia my deep personal sympathy and that of the American people for those who have lost their lives or are injured or suffer otherwise as a result of the earthquakes which tragically have struck Banja Luka and neighboring areas.

Secretary of State William P. Rogers also sent a message of sympathy to Yugoslav State Secretary for Foreign Affairs.

Mr. Roy Vonel contacted AID/DRC from the American Consulate at Trieste, Italy, and offered his services to visit the earthquake area and report on damages and needs. This offer was accepted by State/AID and the American Embassy in Belgrade, and he was authorized to visit the earthquake area. He was met by Yugoslav Red Cross officials and made the tour of the disaster areas with Caritas International representatives, who also wished to determine how that organization could best help.

Based on priority of needs established by Yugoslav officials and Mr. Vonel's report, it was determined that the U. S. Government should contribute to the reconstruction of the 1,350-bed regional hospital and rehabilitation center by donating 900,000 new dinars of US-owned local currency (\$72,000) for the purchase of prefab buildings to house hospital units. The check was presented to the Federal Executive Council on December 17. The Government of Yugoslavia expressed strong appreciation for this US understanding and assistance, which received coverage in all major Yugoslav newspapers. Also, the Yugoslav Red Cross Secretary General expressed thanks for the generous and timely US contribution and special appreciation for long-standing US responsiveness to emergency needs stemming from recurrent Yugoslav natural catastrophes.

On January 24, 1970, Mr. Joseph LeSawyer, Vice President of the United Ukrainian American Relief Committee, visited Banja Luka earthquake area. The American Embassy reported he was impressed by the extent of the damage, which was much more than casualty figures suggested, and by the frequent expressions of appreciation for US relief contributions.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

American National Red Cross

Cash donations	\$15,000	
Cash from ANRC Youth Organization.....	2,500	
Gamma globulin valued at.....	7,200	
Cash donations by individuals made through ANRC.....	<u>2,320</u>	\$ 27,020

Church World Service

Cash donation made through World Council of Churches.....		4,000
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United Auto Workers

Cash donation.....		10,000
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New York Emigrant Group

Cash donation.....		5,000
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Lutheran World Relief

Medicines.....	\$53,280	
2,480 blankets.....	<u>7,120</u>	60,400
(Yugoslavia paid cost of shipment from Baltimore)		\$ 106,420

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Caritas Internationalis and World Council of Churches

Both of these organizations contributed or raised for purposes of emergency relief and reconstruction \$200,000 for a total of.....\$ 400,000

They jointly sponsored a proposal for a reconstruction project for a Red Cross Social Center for Banja Luka. The proposal received the wholehearted approval of Protestant, Roman Catholic and Orthodox Churches of Yugoslavia. It was estimated the Center would cost \$120,000. It was designed particularly for the children of the earthquake area as a place where they could eat, play and learn; but facilities were also to be included for the aged, infirm or needy adults. Also to be included were a canteen, dining hall, small dispensary, office and a warehouse in which the Banja Luka Red Cross could collect, sort and distribute food, clothing and other goods, as well as train Red Cross volunteers to assist government social workers. The Center, when completed, will be identified as a gift from the world Christian community.

UNICEF - cash donation.....	\$ 10,000
UNESCO Staff Association - cash.....	230
Pope Paul - cash.....	10,000

Following is a list of reported contributions by governments, Red Cross societies, voluntary organizations and private sector by country:

Australia - cash.....	1,220
Algeria - cash.....	2,040
Austria - disaster supplies.....	101,080

(An Austrian firm sent 50 railway sleepers w/beds for 3,500 people)

Belgium - disaster supplies.....	\$	1,610
Brazil Government - supplies.....		1,430
Bulgaria - supplies.....		13,570
Burma - cash.....		420
Canada Red Cross - cash and supplies.....	\$38,620	
Government - cash.....	<u>13,980</u>	52,600
Cambodia - cash.....		280
Ceylon Red Cross - supplies.....	420	
Government - supplies.....	<u>2,000</u>	2,420
Czechoslovakia - supplies.....		107,080
China - cash.....		19,380
Denmark - supplies.....		6,660
Finland - supplies.....		80,910
France - supplies.....		1,740
Germany Dem. Rep. - supplies.....	35,870	
Government - supplies.....	<u>17,870</u>	53,740
Germany Fed. Rep. Red Cross - supplies.....	100,750	
Government - cash.....	13,620	
12 prefab pavillions for erection near the hos- pital site with capacity 300 beds to enable the hospital to operate through the winter of 1970, value 265,000 marks, equivalent of.....	<u>125,000</u>	239,370
Great Britain Red Cross, Christian Aid, Oxford Committe for Famine Relief, War on Want - supplies.....	101,140	
Fitzroy Maclean raised 50,000 pounds sterling for the earthquake victims through British TV/radio.....	120,000	
Government - 10,000 pounds sterling.....	<u>24,000</u>	245,140
Greece Government - supplies.....		33,180
Hungary - supplies.....		13,250
Iceland - cash.....		460
India - supplies.....		800
Iran - supplies.....		29,540
Ireland - supplies.....		1,320
Italy - supplies.....		125,890
Japan - supplies.....		980
Lebanon - cash.....		40
Liechtenstein - cash.....		460
Luxemburg - cash.....		580
Monaco - cash.....		450
Netherlands - supplies.....		5,700
New Zealand - cash.....		10,040
Norway - cash and supplies.....		73,840
Trondheim, Norway, sister city of Split, Yugoslavia, sent two prefab buildings.....		250
Philippines - cash.....		8,050
Poland - supplies.....		8,380
Romania - supplies.....		280
South Africa - cash.....		710
Spain - cash.....		195,970
Sweden - cash and supplies, including 9 inflatable houses.....		

Switzerland Red Cross - supplies.....	\$124,690	
Government - cash.....	<u>23,250</u>	\$ 147,940
Turkey - supplies.....		17,360
United Arab Republic - supplies.....		7,000
USSR - supplies.....		31,120
Private cash donations.....		640
League of Red Cross Societies - cash.....		<u>10,000</u>
		\$2,075,150

BOLIVIA

CHARACTERISTICS OF THE DISASTER

EVENT: Polio Epidemic

DATE-TIME: November 1969 to Spring 1970

LOCATION: Cochabamba and Sucre

DISASTER VICTIMS:	<u>Cases</u> 53	<u>Deaths</u> 2
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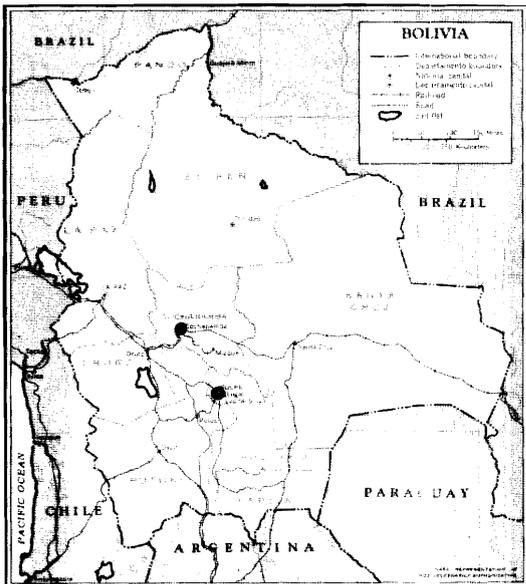
DESCRIPTION OF THE DISASTER:

The epidemic started in Cochabamba in November. From late February to mid-March the number of new cases increased at the rate of one per day. The disease occurred primarily in persons three years of age and below.

ACTION TAKEN BY THE GOVERNMENT OF BOLIVIA AND LOCAL ORGANIZATIONS:

Plans were made for mass inoculation in La Paz on March 9. The Government of Peru requested polio vaccine from the U. S. Government and third countries in order to carry out the vaccination program.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:



The American Ambassador exercised his disaster relief authority to use AID contingency funds for the purchase of 50,000 doses of trivalent oral vaccine. Arrangements were made for this purchase through the Pan American Health Organization at a cost to AID of \$1,780 for the vaccine and \$220 for airlift, for a total of.....\$2,000

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Arkansas Partners of the Alliance

Dr. Roger Bost, pediatrician, and Dr. Wayne Glenn, anesthesiologist from the University of Arkansas Medical School

sponsored by the Partners, arrived in La Paz March 15 bringing with them two chest respirators, a compressor, other equipment and literature on polio. Braniff International Airways provided free airlift for the doctors and supplies. Value of these supplies estimated by DRC about.....\$ 1,000

North Carolina Partners and Utah Partners

20,000 doses of trivalent oral vaccine (10,000 from each)..... 1,000

Direct Relief Foundation

3 chest respirators, estimated value..... 750

Church World Service

4,000 doses of polio vaccine and cash for a total of..... 2,500

Pfizer, Latin American, Inc.

10,000 doses of vaccine..... 500
\$5,750

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Pan American Health Organization

PAHO assisted the Government of Bolivia Minister of Health and PAHO doctors worked at the Cochabamba clinic. PAHO also sent 50,000 doses of polio trivalent vaccine, valued at.....\$ 2,000

Brazil - 40,000 doses of polio vaccine 2,000

Argentina - 20,000 doses of polio vaccine..... 1,000
\$ 5,000

COLOMBIA

CHARACTERISTICS OF THE DISASTER

EVENT: Flood

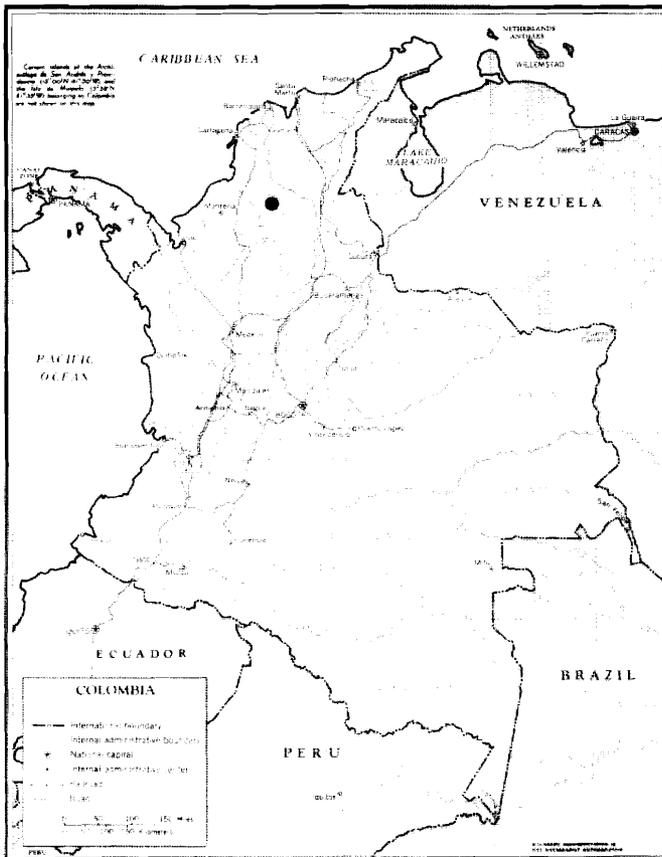
DATE-TIME: December 1969 and January 1970

LOCATION: Magdalena River area--especially Magangué and Mompos in the Department of Bolívar

DISASTER VICTIMS: People Evacuated
70,000

DESCRIPTION OF THE DISASTER:

Flooding of the Magdalena River is expected every year. Usually relief efforts are necessary in limited areas for only a short period and can be handled by the Colombian people and government authorities without external assistance.



In December 1969, the river rose higher than usual and receded much later. Many people were driven from their homes and were faced with a three to four month period of hardship until new crops could be grown and family food supplies stabilized. As late as February 9, 70,000 people were still unable to return to their homes, and health problems of malnutrition complicated by bad water and unsanitary conditions threatened.

ACTION TAKEN BY THE GOVERNMENT OF COLOMBIA:

A commission of Government of Colombia and UN officials visited the flood area and reported on damage and relief needs to the PRONENCA Committee (National Food Assistance Committee composed of



School children helping unload relief supplies in Magangué area



CARE supplies being unloaded at Mompos

the National Planning Office, Institute of Family Welfare, Ministries of Health, Agriculture and Education, World Food Program, CARE, Catholic Relief Services, CARITAS and USAID Mission).

Local health authorities, departmental governments and the national government took action to bring relief supplies to the area and requested assistance, particularly in food supplies, from USAID and U. S. voluntary agencies. The Colombia Red Cross provided drugs valued at.....\$1,410.

ASSISTANCE PROVIDED BY THE US GOVERNMENT:

The American Ambassador determined the floods were of a magnitude to warrant US assistance and exercised his disaster relief authority to commit AID contingency funds for the local purchase of drugs, dehydration supplies and equipment. A total of 50,000 pesos were used for this purpose, which is equivalent of.....\$2,814

USAID also approved the distribution of USG P. L. 480

Food for Peace commodities by Catholic Relief Services and CARE as follows:

CRS/CARITAS - 158,334 pounds of rolled wheat, vegetable oil, nonfat dry milk and bulgur; CARE - 509,203 pounds of nonfat dry milk, cornmeal, flour, bulgur, rolled wheat and vegetable oil. Estimated market value.....\$91,755

Messages of appreciation were sent to the Ambassador by the Governor of Bolivar, National Institutes of Family Welfare and Nutrition and other governmental officials.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

CARE and CRS distributed above P. L. 480 food in a coordinated program with local health, community action and governmental personnel.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

UNICEF made arrangements to supply boats for transport.

COLOMBIA

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

DATE-TIME: April, 1970

LOCATION: Leticia in the Amazon region

DISASTER VICTIMS: People Affected
About 4,000

DESCRIPTION OF THE DISASTER:

Leticia is the capital of Colombia's Amazon Region and its only important port on the Amazon River. The April 1970 flood was the worst in 20 years. Water rose nine feet above the normal level and flooded 80% of the 120

kilometers of agricultural land which Colombia has on the river's left bank. There were 800 families directly affected by the flood.



ACTION TAKEN BY THE GOVERNMENT OF COLOMBIA AND LOCAL ORGANIZATIONS:

A well coordinated assistance operation was organized by a committee made up of civil, military and church authorities, as well as community members. The committee worked according to the following plan:

- I. Emergency Plan
 - (A) Placing barracks in a safer and healthier place.
 - (B) Installation of a provisional health post.
 - (C) Placing livestock on higher ground.
 - (D) Medical service along the river bank and distribution of drugs.

- (E) Distribution of food and clothes.
- (F) Evacuation of those requesting it to safer places.



Partial view of Leticia's Flood

- II. Rehabilitation Plan
 - (A) Return livestock to their parcels
 - (B) Reconstruction of houses
 - (C) Financial and technical help on the part of officials in charge.
- III. Personnel in charge of operations
 - (A) List of 14 different entities and creation of various committees in charge of specific actions.
- IV. Administration and Logistics
 - (A) Supplies - food, clothes and fuel.
 - (B) Transportation - 1 Navy boat, 6 other boats and 2 canoes were assigned to the emergency.
 - (C) Health - one hospital and health center and one river-mobile unit.
- V. Donations
 - (A) Various local groups made donations totaling \$1,250. Drugs and other supplies were donated by the Livestock Bank.

Among government and private entities that participated in the flood relief efforts were: Naval Cooperative, National Police, Customs, Bank of the Republic, Agricultural Bank, Livestock Bank and the National Institute of Family Welfare. The Colombia Red Cross contributed clothes, food and drugs valued at approximately \$2,600.



Colombia Red Cross and USAID supplies being delivered to Leticia

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The American Ambassador determined the floods in Leticia were of a magnitude to warrant US assistance and authorized 50,000 pesos for local purchase of drugs and medical supplies, chargeable to the AID contingency fund, in the equivalent of.....\$ 2,814

Also, the USAID Mission approved the distribution of USG P. L. 480 Food for Peace commodities by CARE and Catholic Relief Services consisting of approximately 20,500 pounds of wheat flour, cornmeal, rolled wheat and vegetable oil, estimated market value.....\$ 1,464

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

CARE and Catholic Relief Services distributed above P. L. 480 food.

3,278

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

None reported.

COSTA RICA

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

DATE-TIME: October/November 1969 and January 1970

LOCATION: Pacific Coast areas - October
Meseta Central area - November
Limon area - January

DISASTER	<u>Killed</u>	<u>Injured</u>	<u>Evacuated</u>
VICTIMS:	7	23	4,580

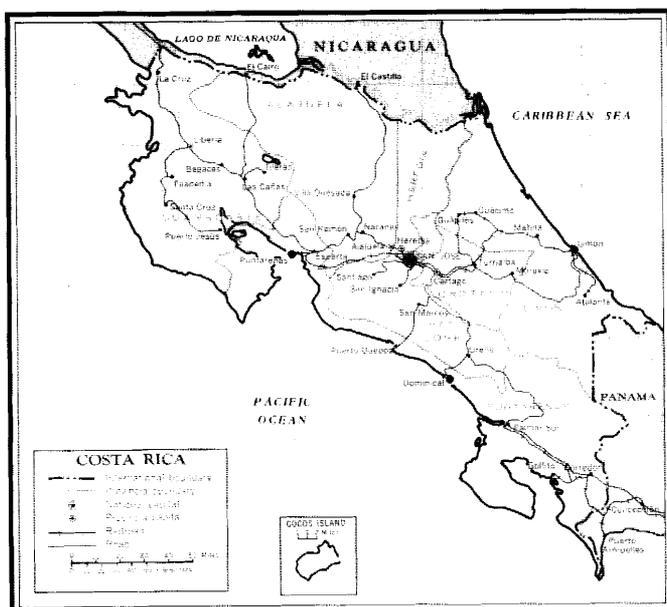
DAMAGES: Estimated dollar damage to crops - \$4 million

DESCRIPTION OF THE DISASTER:

Costa Rica suffered three separate periods of flooding from October 1969 to January 1970. Even more serious floods occurred in April of 1970, but a separate case study on the April floods is included in this report.

Prolonged heavy rains during the first days of October caused considerable flooding in the Pacific coast areas. Several thousand persons were evacuated from coastal areas between Puntarenas and Dominical. Surface

communication was disrupted because many roads and bridges were made impassable due to inundation and landslides. Bad weather prevented survey and reconnaissance of the flooded areas so that early reports on the situation were fragmentary and confusing. The rains abated for a short time but resumed again on October 14, causing new landslides which blocked the coastal Central American Highway No. 2. Traffic piled up on both sides.



Attempts to resettle and rehabilitate the flood victims were complicated by the prolonged period of flooding. In November,

new flooding occurred in several parts of the country, particularly Meseta Central, triggered by Hurricane Martha. Damage to land communications was severe, and many communities remained isolated as a result of landslides and destroyed bridges. No acute hardships were reported, however, as a result of the November floods.

On January 10, it was reported that three days of heavy rains and strong winds had pounded the Caribbean coastal area, creating flood conditions along rivers which enter the sea in the vicinity of Limon. Limon was cut off from railroad communication with the interior and regular air flights were suspended. Conditions were reported improved on January 11 and emergency evacuation of flood victims did not reach the dimensions of the October floods.

ACTION TAKEN BY THE GOVERNMENT OF COSTA RICA AND LOCAL ORGANIZATIONS:

The Government of Costa Rica initiated immediate rescue and relief operations and sought assistance of the American Embassy for helicopter support. The President of Costa Rica appointed a National Emergencies Commission pursuant to the National Emergency Law which was passed in August of 1969. Commission members included representatives of Civil Defense, Ministry of Health, Central Bank, Social Security Fund and the Red Cross.

Relief centers were established. One of these was the former Arenal Disaster Refugee Center at Tilaran which was used to shelter 400 homeless people from Filadelfia. The Ministry of Health took measures to prevent epidemics.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

For both the October and the January floods, the Government of Costa Rica requested that the USG provide helicopters for rescue and relief work. At the request of the American Ambassador, two helicopters were made available by USSOUTHCOM, Panama, for the October floods and one for the January floods. No US assistance was requested in November.

The Ambassador authorized expenditures from the AID contingency fund, under his disaster relief authority, to reimburse the US Military for their assistance during the October floods, which totaled.....\$ 592
The Government of Costa Rica paid for most of the US military costs for the helicopter used in January. The balance was minor and was paid for from US Mission funds, amounting to..... 170
\$ 762

Sincere appreciation was expressed by the Minister of Foreign Affairs and the Minister of Government for use of the USG helicopters. President Trejos requested that the American Embassy convey to Washington and the US Army Southern Command in Panama his personal thanks. Coverage in local press and other news media was wide and favorable.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

CARE

CARE donated mattresses, spoons, cups, baby bottles and other supplies but quantities and value were not reported.....\$ *

Church World Service

CWS airlifted 525 blankets and 4,400 pounds of clothing valued at \$5,975, plus airlift costs of \$2,000, for a total value of.....\$7,975

American National Red Cross

Cash donation.....\$3,000
\$10,975*

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

None reported.

*Incomplete or not reported

COSTA RICA

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

DATE-TIME: April 1970

LOCATION: Limon and Cartago Provinces

DISASTER	<u>Killed</u>	<u>Injured</u>	<u>Evacuated</u>
VICTIMS:	23	Over 40	10,000

DAMAGES: Hundreds of homes were destroyed or damaged, bridges were washed out, and the railroad north from Limon to Siquirres was cut in several places.

Estimated dollar damage - \$6 million

DESCRIPTION OF THE DISASTER: (See map for previous Costa Rica floods)

On April 9, it was reported that unusually heavy and unseasonable rains for several days had flooded the eastern slopes and coastal plains in Limon and Cartago Provinces. Costa Rica press reports indicated the floods were the worst in the nation's history. Some towns were almost destroyed and many were isolated for several days. People were evacuated to public buildings and churches, and 700 were reported to have slept in trees in Peralta. Penhurst was completely inundated with buildings washed away, while 32 houses were destroyed in Peralta and another 300 were under water. On April 15, nine localities were still completely isolated.

ACTION TAKEN BY THE GOVERNMENT OF COSTA RICA AND LOCAL ORGANIZATIONS:

The Government of Costa Rica carried out rescue and relief operations and sought the assistance of the USG in providing helicopter support for delivering medical teams and making food air drops. The Civil Defense organization in Costa Rica participated in rescue operations and in caring for the disaster victims. The Central Committee of the Government met to evaluate short and long range relief needs. It was estimated that government and local contributions for relief supplies amounted to \$40,000.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The American Ambassador exercised his disaster relief authority in response to requests from the Government of Costa Rica for helicopter support and

authorized expenditures up to \$25,000 from the AID contingency fund for this and for the purchase of disaster supplies. On April 10, USSOUTHCOM at Panama rushed one helicopter to Limon where it began evacuating the injured and stranded persons. Two other helicopters followed bringing with them 192 blankets from AID/USSOUTHCOM Disaster Reserve at Panama. Breakdown of costs for USG disaster assistance follows:

Use of three helicopters from US Military/Panama....	\$4,800	
Cost of blankets	600	
Miscellaneous US Mission costs.....	<u>154</u>	\$5,554

During eight days of operation, the helicopters made 85 sorties, carried 105,900 pounds of food and medicine, evacuated 40 medical cases and carried about 180 persons in medical and relief teams.

USAID also approved diversion by CARE and CRS of 10,000 pounds of USG P. L. 480 Food for Peace nonfat dry milk and 5,000 pounds of flour, value \$2,700.

The following was included in a cable from the American Embassy in San Jose:

All Costa Rica aware above humanitarian assistance by U. S. Military. Provision of helicopters and outstanding efforts of their capable and courageous crews have been described and praised in all Costa Rica media and by all levels of Costa Rican officials and citizens.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services and CARE made above P. L. 480 Food for Peace commodities available and actively participated in moving and distributing food and other supplies.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

None reported.

ECUADOR

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

DATE-TIME: April 8 to May 4, 1970

LOCATION: Coastal Provinces of Guayas, Esmeraldas and Manabi

DISASTER VICTIMS:

Killed	<u>20</u>	People Needing Assistance	<u>140,500</u>
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DAMAGES: Several hundred homes were destroyed and there was considerable damage to rice crops and pastures in some areas. Estimated dollar damage was not available.

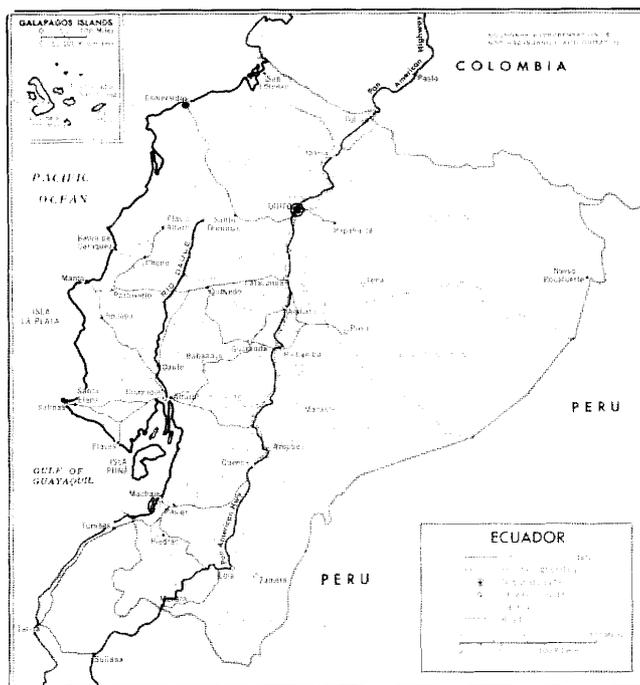
DESCRIPTION OF THE DISASTER:

Heavy rains during the first half of April caused the Daule, Vinges, Cayapas and other rivers, already swollen by seasonal rains, to overflow their banks. The first floods occurred in Esmeraldas Province in northern Ecuador during the second week of April. Villages along the river system were destroyed and all communications cut. In one place, Sta. Maria de Cayapas, 400 families were left homeless. The Cayapas river rose by 30 meters.

The Cayapas river rose by 30 meters.

On April 17, 2,500 people were affected by flood waters in the Limones area of Esmeraldas, which was extremely hard hit. At least two villages were wiped out.

A few days after the first floods in Esmeraldas, the Balzar-Daule basin north of Guayaquil was flooded by the Daule and other rivers. This area is a rich farming center encompassing 74,000 acres of land. Over 100,000 people were affected by the floods in this region. Communications were disrupted for three to



four days until the water receded. The people lost crops, animals and personal possessions. At least 12,000 acres of rice and other crops were destroyed.

In Manabi Province, in the Olmedo area, 3,000 persons were affected by the rising Portoviejo and Puca rivers. This province, however, was not hit as hard as the others.

ACTION TAKEN BY THE GOVERNMENT OF ECUADOR AND LOCAL ORGANIZATIONS:

Relief operations were coordinated by the Ministry of Agriculture in cooperation with the armed forces and local provincial governments of the three affected provinces. Assistance consisted of mass feeding, medical aid and temporary shelters. Trucks, boats and canoes were used to bring in supplies. The Municipality of Guayaquil was also quite active in the feeding program, cooperating with CARE in Guayas Province. It also made potable water available to the flood victims. The National Health Service sent medical teams to remote areas, established four emergency medical centers and used up much of its own medicines prior to receiving fresh supplies from the USAID Mission.

The Ministry of Agriculture, assisted by the Chamber of Commerce for Rice (CAMARROZ), took primary responsibility for distributing seeds to farmers who had lost their crops. Three other government agencies, Agrarian Reform Agency (IERAC), Irrigation Agency (INERHI) and Forestry Service distributed USG P. L. 480 Food for Peace commodities donated through the World Food Program. No new relief organizations were formed to provide disaster relief.

Among private in-country organizations aiding in the relief program were the Ecuadorian Red Cross and Caritas. The latter worked closely with Catholic Relief Services in a program to distribute medicines, shelter and clothing. The Red Cross contributed limited quantities of clothing and medicaments. Six private firms (L.I.F.E.; Calox Equatoriana, S.A; Laboratories H.G.; Omnia Pro Medico; American Hospital Supplies; and Kruger, S.A) gave discounts valued at over \$10,000 in medicines and insecticides purchased for disaster relief by USAID.

The Government of Ecuador requested US assistance in providing food and medicine. Coordination of disaster relief by the Ministry of Agriculture was described as follows by the CARE country director in his report to the USAID Mission: *In my opinion the local disaster relief operations were outstanding in the Daule River Basin (north of Guayaquil). The final coordination under the Ministry of Agriculture was remarkable in the utilization of material from several agencies. This opinion was concurred in by representatives of other agencies concerned.*

A press report indicated that the Government of Ecuador made a budget allocation of two million sucres (approximately \$95,000) for disaster relief purposes. No estimate was available on private in-country contributions.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

USG disaster relief involved two main elements: (1) Donation of PL 480, Title II, food to flood victims through CARE, Catholic Relief Services and World Food Program; (2) Purchase of medicines and insecticides for use by the National Health Service in the flood areas. Additionally, on April 21, a US Naval aircraft delivered 40 gallons of CRS-donated anti-diarreal medicine to an isolated region in Esmeraldas Province.

On April 17, the American Ambassador determined that a disaster had occurred and authorized up to \$25,000 from AID contingency funds for the emergency. Subsequently, the above mentioned medicines and insecticides were purchased in-country and costs, including delivery, amounted to \$ 8,844.

Following is breakdown of USG P. L. 480 food releases:

CARE - 72,820 pounds of nonfat dry milk, 30,000 pounds of wheat flour; 2,500 pounds of rolled wheat and 2,820 pounds of vegetable oil; CRS - 1,500 pounds of nonfat dry milk, 12,300 pounds of CSM (corn/soya/milk mix), 31,000 pounds of wheat flour, 3,000 pounds of cornmeal, 38,500 pounds of rolled oats and 9,000 pounds of vegetable oil; WFP - 264,000 pounds of wheat flour, 264,000 pounds of bulgur wheat, 26,400 pounds of vegetable oil.

Estimated market value of the above commodities plus \$10,000 in ocean freight charges for WFP commodities..... \$50,996

Expressions of appreciation were made to the US Mission by appropriate representatives of the National Health Service and the Ministry of Agriculture. Additionally, a cooperative association representing 1600 families in the Daule River region sent a telegram of appreciation to Catholic Relief Services, Caritas and USAID for assistance received.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services

CRS conducted emergency operations in all three provinces. Working with Caritas, food and other supplies were distributed to 2,500 persons in Esmeraldas, 3,000 in Manabi and 50,000 in Guayas. The food was distributed from established feeding centers in each province. CRS/Caritas also prepared bread, noodles and cookies, costs of which were paid for by a cash donation from CRS/New York. Flour and oil were used in the preparation of bread and noodles and CSM for the cookies. Clothing, baby food, metrecal and medicines on hand in the various provinces were distributed through local committees established by the provincial Caritas offices with the assistance of Ecuador military and public health authorities, who provided logistical support and personnel.

Cash donation of \$2,000 was made by CRS as well as foods other than USG P. L. 480 commodities and clothing and medicines valued at \$19,640, for a total contribution of.....\$21,640

CARE

CARE conducted emergency feeding operations for 35,000 flood victims in Guayas Province, in cooperation with the Municipality of Guayaquil and the Ecuador Ministry of Agriculture. The nonfat dry milk, flour and oil were prepared as liquid milk and baked bread, with the Municipality of Guayaquil handling the expenses and arrangements for their processing and transportation to the disaster area. An American representative of CARE was in the flooded area daily to oversee distribution of CARE provided foods.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

World Food Program

The WFP made available the above mentioned USG-donated P. L. 480 Food for Peace commodities.

Canada

13,200 pounds of canned fish through the WFP, valued at.....\$ 5,280

OXFAM - England

Cash donation through CRS for the purchase of medicines and for rice seed for 30 cooperatives along the Daule River in Guayas Province. \$ 4,800
\$10,080

EL SALVADOR, GUATEMALA, HONDURAS

CHARACTERISTICS OF THE DISASTER

EVENT: Hurricane "Francelia" and Floods

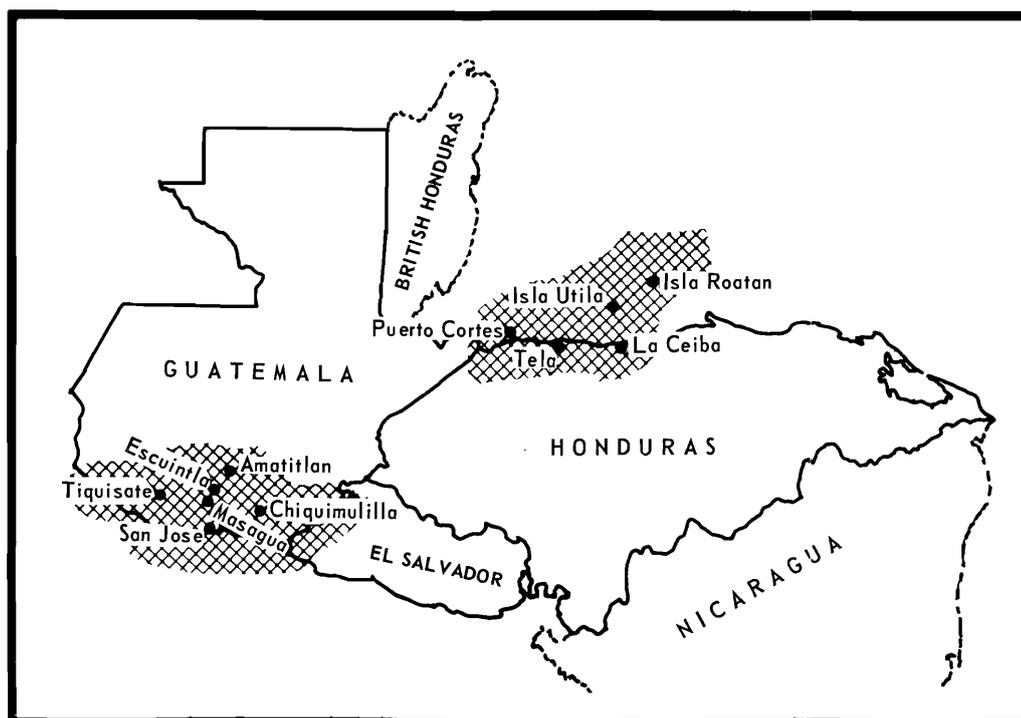
DATE-TIME: September 1969

LOCATION: See below under description for each country

DISASTER

VICTIMS:	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>	<u>Evacuated</u>
Honduras	0	2	5,000	8,000
Guatemala	269	-	10,200	8,521
El Salvador	2	40	38	4,600

DAMAGES:	<u>Houses/Bridges Destroyed</u>		<u>Estimated Dollar Damage</u>	Much of the estimated dollar damage represents crop losses. There were also extensive damages to roads, bridges, railroads and power facilities.
Honduras	1,000	4	\$19.0 million	
Guatemala	1,704	2	\$15.0 million	
El Salvador	42	1	\$ 1.6 million	



DESCRIPTION OF THE DISASTER

General

Hurricane "Francelia" was a disaster for Honduras, El Salvador and Guatemala. It also affected British Honduras.

The hurricane was tracked and reported on by the National Hurricane Center in Miami from September 1 as it slowly approached British Honduras. On September 2 and 3, it lay just offshore with winds of about 100 miles per hour over a small area. It carried widespread confused configuration with enormous volumes of rain.

Proximity to land prohibited hurricane hunter aircraft from further monitoring the storm. Because neighboring countries failed to maintain adequate ground weather stations, the U. S. National Hurricane Center had less information on this hurricane than any other in the history of the Center. The result was that, although there was an awareness of the storm's dangers, the future path and behavior of the storm could not be predicted with



French Harbor, Island of Roatan, Honduras. There were almost twice as many houses as can be seen here before the hurricane.

assurance. In spite of this handicap, the Center did accurately forecast the storm's future course in general terms. Repeated warnings from the Center to the countries involved permitted those governments to help citizens take precautions.

Honduras

"Francelia" struck Honduras on September 1. Ham radios were first to report serious damage in the Bay Islands. Heavy rains occurred in the mountains and there were high tides on the coast. Later ground reconnaissance indicated the hardest hit areas were French Harbor and Coxen's Hole on Roatan. Almost all the houses in French Harbor were either destroyed or damaged, and about 400 families were homeless. More than half the buildings in Coxen's Hole were destroyed and the rest were damaged. There was less damage on the Islands of Utila and Guanaja.

Serious flooding occurred all along the north coast including airports at San Pedro Sula, Tela and La Ceiba. At one point the airport at San Pedro Sula was under ten feet of water. Highways and rail routes between San



Sula Valley, along Chamalecon River, Honduras

Pedro and Puerto Cortes were made impassable due to washouts, as was the road between San Pedro Sula and the airport. The San Pedro Sula water supply was out for a few days. Wind damage and floods destroyed 300 houses in Puerto Cortes. About 5,000 people had to be evacuated. There were 300 families evacuated from Progreso. Trujillo, Tela and Puerto Castilla were hit by heavy gale winds, but damage was not severe.

Cars stalled on highways. Many people were reported stranded on the roofs of cars and on housetops in the flooded area of Uluva Valley. Power was cut in many cities.

By September 5, small planes could land on Guanaja, Utila and Roatan Islands and flood waters were receding in the affected areas on the Honduran north coast. On September 6 they were also reported receding in the Sula Valley along the Uluva. Later in September, week-long heavy rains caused new flooding. On September 23, it was reported that Progreso once more was isolated. Boats had difficulty reaching the town. Four bridges on La Lima/Tela road washed out. There were some injuries, but no loss of life in Honduras as a result of Hurricane "Francelia."

The losses in crops were the most serious consequences of the hurricane and floods. The blow to the Honduran economy from banana losses alone was considered a disaster. Up to 12 million boxes from the 1969 crop were wiped out. It was said that damage from "Francelia" and the floods was far greater than the effect of the hostilities with El Salvador because of the greater impact on the "gross national product." Over two-thirds of United Fruit Company's 30,000 acres in its Honduran division were affected. Over 15,000 acres had to be replanted. The Company estimated its crop losses at 50%, and that it would be two years before they could come back to the pre-September 1969 annual crop level of 33 million boxes. Independent growers marketing through United Fruit lost about 3,000 acres of bananas.

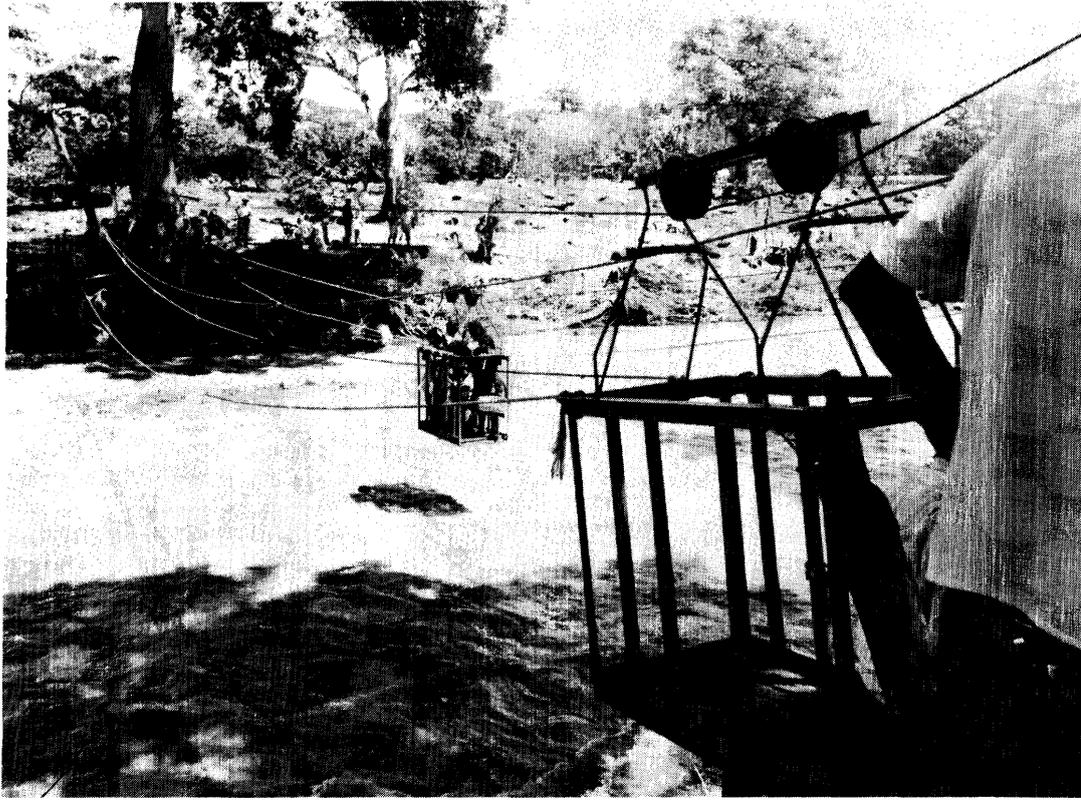
Losses were also extensive to the corn crop on the north coast, dollar damage being estimated at \$2.3 million. Sugar cane valued at \$300,000 was also destroyed, and coconut and bean crops were affected. Damage to the banana and sugar crops alone was placed at \$4 million.

Guatemala

Guatemala was hit hard by "Francelia." By late in the day on September 5, Francelia had dumped about 20 inches of rain on that country. Torrents of water rushed down from the highlands inundating large parts of the Pacific coastal area for 15-20 kilometers inland.

A combination of flash floods, landslides, over-flowing rivers, canals, and the crater lake of volcano Agua killed hundreds of persons, destroyed or damaged highways, roads, bridges, railroads, telephone lines and electric facilities, low-income housing in coastal areas, fishing boats, small craft, livestock, crops, and pastures.

The worst hit urban areas were Tiquisate, San Jose, Amatitlan, Escuintla, Chiquimulilla and Masagua. With the exception of Amatitlan, all are in the



People being transported in basket across river at Achiguate where bridge washed out.

low-lying Pacific coast region. Floods and landslides covered the town of Amatitlan--mud was measured in the town center to shoulder height. On-site inspections of Parcelamientos at La Blanca, Arizona, Nueva Concepcion, Santa Isabel, and Cyuyte indicated these areas all but destroyed. About 5,000 families (approximately 25,000 people) lost everything--homes, furnishings, crops, livestock. An equal number of people were believed isolated in surrounding areas due to washed out bridges and inaccessible roads. Destruction of homes and property was not general within these areas; but where it occurred, mainly near rivers or in the path of washouts and landslides, damage was severe. Because of the widespread damage to roads, bridges and railroads, communications were slow in returning to normal.

The Pan American Highway traffic was interrupted in several places with two major bridges destroyed. A section 124 kilometers west of the capital near Los Encuentros was completely washed out--with about 135 feet of road gone where it crossed a deep gorge. There was a huge landslide in the Huehuetenango-Getzaltenango stretch which prevented transit to Mexico. Another, far more serious, was the collapse of a fill 4 kilometers from Los Encuentros where the Guatemalan Highway Department had been working to carve a detour. Large landslides closed two roads in El Quiche Department at Sacapulas and Chinique.

By September 6, heavy rains had ceased and water had begun to recede in most places.

El Salvador

Hurricane damage in El Salvador was reported on September 4. Heavy rains in the wake of the hurricane caused the evacuation of approximately 750 persons along the Rio Lempa and on the Southwest Coast. In lower Rio Paz about 600 persons were isolated and had to be supplied with food by air drops. On September 6, 1,000 homes in Lempa Estuary were still under water up to rooftops. The most affected areas were the lower Lempa River valley in the Jiquilisco area, Acajutla, and the lower Rio Paz Valley near the Guatemalan border. On September 9 it was reported the rains had stopped and flood waters were receding in all areas including the Rio Paz and that evacuees were returning to their homes.

A field survey report on September 10 indicated some country roads still impassable but no major highways interrupted. There was no visible damage to telephone or power lines. Corn and sorghum crops suffered damage and for some individual farmers the damage was significant. However, loss to the national economy was not considered of serious proportions. There were some livestock losses, and one bridge was destroyed. While approximately 1,000 houses were inundated, only 42 of them were destroyed. There was no structural damage to most of the homes that had been flooded.

ACTIONS TAKEN BY THE GOVERNMENTS OF HONDURAS, GUATEMALA, EL SALVADOR

Honduras

On September 3, soon after word was received that the hurricane had struck the Bay Islands and northern coastal area, the Honduran Red Cross and the Comision Desplazados began assessing availability and readiness of relief supplies such as tents, cots, blankets, cooking and eating utensils, medicines and food. Plans were made to divert supplies previously supplied for war disaster relief to hurricane disaster victims, if necessary.

A substantial need for tents was anticipated and a planned return to Panama of some of the unused tents supplied by the U. S. Government for the war disaster was cancelled, pending determination of need for this new and concurrent disaster.

The Health Ministry provided the Honduran Red Cross with a doctor and nurse and medical supplies for use on the Bay Islands. The Red Cross obtained the use of a DC-3 to make a flight to the islands to transport food, medical personnel and supplies. There were no doctors on the islands.

On September 4, the American Ambassador received a call from President Lopez asking for urgent disaster relief assistance in the form of helicopters to evacuate people from isolated areas and to carry medicines and emergency relief. Later the request was reduced to having helicopters available on a standby basis, and on September 5 it was determined they would not be needed.

Small boats that could be repaired after damage by the hurricane were used to move between points on the island of Roatan. They were used to transport persons and supplies to and from the airstrip at Coxen's Hole. Larger boats were employed between the islands and La Ceiba. On September 8, it was reported that relief supplies diverted from war disaster relief were arriving on Roatan. Local relief operations were undertaken by La Ceiba Junior Chamber of Commerce.

Guatemala

At the beginning of the disaster the Guatemalan President established a National Emergency Committee headed by the Minister of Defense. This organization was, in theory, the focal point of all disaster relief. In practice this did not prove to be the case. Most organizations, for reasons of their own, preferred to operate independently. Because of this there was, inevitably, a certain amount of duplication of effort, as well as some areas which did not receive assistance.

In addition to the committee, other organizations involved in relief activities included the Guatemalan Red Cross, the Guatemalan Army and Air Force, Fire Departments both in the capital and other areas, numerous local committees established in the affected areas by Departmental and Municipal governments and private citizens as groups and as individuals. The wife of the President headed a committee of her own. Various political parties engaged in relief operations independently.

Many donations of food and clothing and medicines were received by all of the above mentioned groups in response to general calls for assistance. One of the principal problems was that these requests were very general in nature since no one seemed to know exactly what was needed. Because of this, much useless material was received.

On the whole, however, the response of the Guatemalan people was generous and spontaneous. The estimated value of in-country donations, including both private and government sources, was about \$200,733.

In order to meet problems which might result from future disaster, the National Emergency Committee remained constituted as a permanent organization.

In addition to emergency relief, the Government of Guatemala had to make extensive repairs to or reconstruct roads and bridges. This was a priority project because of the economic losses involved while the Pan American highway was out of use. The Government of Guatemala requested that the U. S. Government supply and supervise the installation of Bailey bridges. The Government of Guatemala provided \$25,000 as part of the purchase cost of the bridges and agreed to build piers, abutments, approaches and defenses to receive the bridges at both Achiguate and Guacalate Rivers. This work was performed by the Highway Department forces during the months of September, October and November. Estimated cost of this effort was \$330,000.

El Salvador

The Salvadoran Red Cross (SRC) and the National Emergency Committee (NEC) were in charge of providing assistance to the disaster victims. The Salvadoran Army and Air Force provided emergency helicopter rescue support and also transported food to isolated persons. The Red Cross delivered food by boat for three days. Both the Salvadoran Red Cross and National Emergency Committee provided clothing. The U. S. Mission reported that the NEC and SRC were prepared to meet most of the emergency needs; that they had communications, equipment, transportation facilities and medical supplies; and that all were used in an efficient manner.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

Guatemala

The American Ambassador was informed by President Mendez that Hurricane "Francelia" had created a tremendous emergency for Guatemala. The Government of Guatemala asked for U. S. help in providing disaster supplies and helicopters for rescue and relief operations. The USG was also asked to provide Bailey bridges and personnel to supervise the installation of them. On-site inspections by U. S. Mission personnel confirmed that substantial damage had occurred, and on September 8 the Ambassador determined the disaster was of a magnitude to warrant USG emergency relief. He immediately made available \$25,000 under his disaster relief authority and requested AID/W approval for additional funding to cover anticipated costs of disaster supplies, Bailey bridges, medicines, and transportation. AID/DRC made arrangements with the U. S. military to provide food, helicopters, medicines and Bailey bridges from the United States, for which they were reimbursed by AID. Other items were obtained by USAID through local purchase.

The rations were trucked from Atlanta, Georgia, to Robbins Air Force Base and then delivered by five U. S. military C-141's. Two of the planes arrived in Guatemala City on September 10 and the rest on September 11. Four helicopters and 20 crew members were airlifted in a U. S. military C-133, arriving in Guatemala at 10:30 a.m. on September 11 to assist in delivering relief supplies to isolated areas.

Recap of USG assistance:

99,840 "C" rations *	\$123,630
Bailey bridges, including purchase, transportation, and personnel costs	100,000
4 helicopters with crews **	80,000
Blankets--local purchase	2,848
Freight charges--surface	560
Freight charges, inland--local	140
Airplane rental--local	105
Photographs--local	67
Air freight--local	25
Petty cash expenses	15
Anti-diarrheal medicines	2,239
Water purification tablets and airlift	6,030
	<u>\$315,659</u>

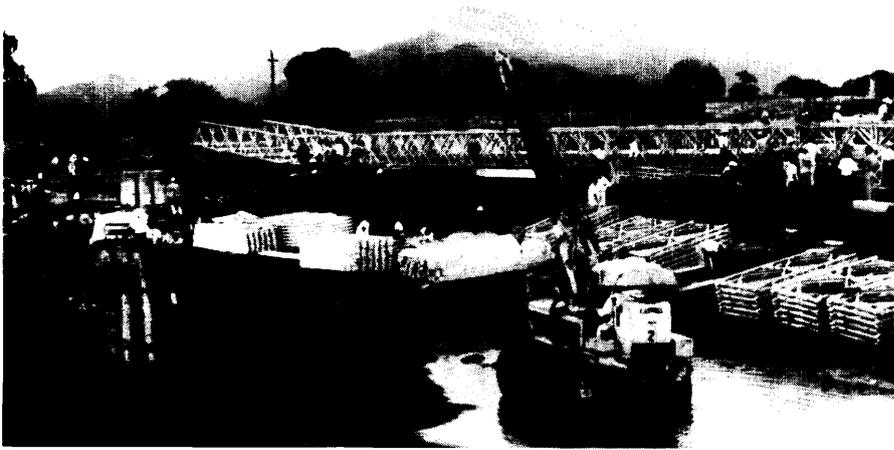
* Only 24,576 of the "C" rations were actually utilized. The balance was returned to DSA/Atlanta, Georgia. DSA refunded to AID \$34,188 which represented cost of the returned rations less US military charges for transporting them back to the U.S. Total obligations against the AID contingency fund are therefore\$281,471

** Represents reservation of funds only.

Bailey Bridges. On September 19, the U. S. Embassy in Guatemala reported that the U. S. Army engineering team from SOUTHCOM had completed its survey of two sites proposed for the Bailey bridges and determined them to be feasible. The GOG Minister of Public Works renewed his request to the USG for two sets of Bailey bridges and one erector set. The U. S. Mission indicated that the economic impact of this hurricane on Guatemala warranted assistance by the USG in installing Bailey bridges and technical supervision. This was approved by AID/W. USAID issued a PIO/C on September 25, 1969, for AID to purchase and pay for transport of the bridges. Necessary arrangements to purchase and deliver the two bridges and erection set were worked out over the weekend of September 19 and the following week between Col. Clyde Bell, DOD/ISA, and John H. Street of AID/DRC. Each bridge was packed in six XTRZ-type trailers and another trailer was needed for the erection set, so that 13 trailers were used to transport the bridges via Coordinated Caribbean Transport ferry from Miami to Puerto Barrios. They arrived on October 2, where they were escorted to the bridge site by USAID/Engineer.



Arrival and unloading of Bailey bridges in Guatemala from the United States



Bridge installation site

Achiguate River was completed on October 24; the one over the Guacalate River on November 2, 1969.

Problems: Weather conditions complicated and delayed completion of the bridges. Over two hours were lost each day because local personnel would not work during inclement weather periods. Extensive damage was caused to completed work at both sites by rising rivers. The far shore causeway at the Achiguate River was completely washed out on October 4, 6, 8, and 9 and partially washed out on October 11. Near shore abutments backfill was gradually eroded until a critical stage was reached on October 9. Completed rock crib pier and rock crib abutments at the Guacalate River were completely destroyed by the raging river on October 11, 1969. These structures had required more than seven days of work.

Other problems involved incomplete and ambiguous information prior to departure of the team from the Canal Zone, such as spans to be bridged, labor force available, condition of sites, bridge parts and erection



Bridge installation site

A U.S. military engineering team of 8 men arrived from Panama on October 3 and 5 to supervise erection of the Bailey bridges. Abutment, pier and defenses design were given to the Government of Guatemala by the U.S. MilGroup Engineer. The bridge over the

equipment available. Changes were needed in requirements outlined by the GOG Department of Roads and unsatisfactory construction methods and inferior materials were employed in preparing the bridge site which added to the delays. Another problem was the lack of Spanish language training material coupled with lack of

trained local personnel which created a difficult training environment, but generally lack of a trained labor force was considered only a minor problem.

Lessons learned:

a. A Double-Single Bailey bridge, 200 ft. in length, 25 ton capacity, can be assembled with bottom chords resting directly on steel bearing plates on an intermediate support. Top chord pins at mid-span must be removed and reinforcement for increasing shear capacity must be provided by adding 2 panels and 1 transom at the 11th and 10th bays. Bridge can be jacked down at center support by utilizing three 15-ton mechanical jacks on each side, toe hooked to bottom chord of third truss, augmented for safety with two 50-ton hydraulic jacks. Safety cribbing is a must.

b. Civilian labor force when properly assisted and supervised by a trained military team can assemble Bailey bridges in civil emergencies. Crew sizes should be increased, as required, to compensate for lack of training, physical stature and stamina of indigenous personnel engaged in the work. In the military, teaching site preparation is a major consideration for the assembly of a Bailey bridge. When a civilian labor force is employed for this in civil emergencies, its importance should be re-emphasized.



Opening of the bridge at Achiguate October 24.

P.L. 480 Food. At the beginning of the emergency at the request of USAID both CARE and CRS made all of their stocks of commodities available to the National Emergency Committee. Because of substantial local donations of food, however, the quantities actually requested were not great. They consisted of:

59,450 pounds nonfat dry milk
64,200 pounds CSM
3,465 pounds vegetable oil
15,000 pounds corn
15,000 pounds bulgur

Total estimated market value\$ 20,000

Total USG assistance to Guatemala for Francelia\$301,471

USAID indicated that the most effective part of U. S. relief in Guatemala was the Bailey bridges because they were an important contribution to reestablishment of communications and commerce within the country.

El Salvador

A U. S. Disaster Relief Survey Team, composed of USAID, State, U.S. Military Mission, and two Salvadoran employees, visited affected areas to appraise the damage and determine assistance needs.

The American Ambassador on September 7 declared the disaster warranted U. S. assistance and exercised his disaster relief authority to obligate money from the AID contingency fund to pay for purchase and delivery of 1,000 blankets. AID/DRC was contacted. Because the Panama reserve had been completely depleted of blankets following the Honduran/Salvadoran Displaced Persons Disaster, they had to be ordered from a commercial source in the U.S. The order was placed on September 8. The blankets were scheduled to leave from Miami in two shipments on September 11 and 12 via PanAm flights 507 and 503. Although they were shipped by the manufacturer the same day ordered, storm conditions in New England delayed commercial flights and then further delays resulted due to the fact that only intermittent commercial flights were available from Miami to San Salvador. They were received in San Salvador on September 22. By then water had receded and almost all evacuees had returned to their homes. Blankets not used were donated to the Salvador Red Cross for future disaster relief needs.

Blankets and transportation costs amounted to\$2,623

In addition USAID/El Salvador approved transfer of following P.L. 480 food commodities from CRS stocks:

1,150 pounds bulgur; 1,150 cornmeal; 1,150 flour; 640 pounds non-fat dry milk; and 739 pounds vegetable oil with market value.. 402

Total USG assistance to El Salvador for Francelia\$3,025

USAID/El Salvador reported that initial local reports from the field were exaggerated. Receding floodwaters permitted 90% of the evacuees to return to their homes in less than 3 days and many of the blankets and cots requested were not needed.

Honduras

The hurricane was declared a disaster of a magnitude which warranted U.S. assistance by the American Ambassador. USAID involvement in this disaster consisted mainly of authorizing the diversion and release of AID relief supplies and P.L. 480 food commodities, plus cooperation with local agencies in surveillance of disaster conditions. In this latter activity, local government and voluntary agency personnel and officials were invited to accompany AID personnel in the AID-leased plane on several trips to and from the affected areas.

The Honduran Comision de Desplazados released to the Red Cross some urgently needed disaster materials brought in by AID for the border conflict (Central American Crisis) disaster. The value of these supplies was approximately \$8,000. CARE and Catholic Relief Services diverted P.L. 480 food from the commodities provided for the war disaster valued at \$30,000. These costs and values, however, are included under the Central American Crisis disaster and are therefore not again credited in this report. ✓

Local agencies assumed the principal burden for immediate relief, with the assistance of the Honduran Red Cross, CARE, CARITAS, and a number of other, independently-operating voluntary organizations. The capacity of the local agencies to cope with this disaster was augmented considerably by the fact that their organizations were geared up to work with the victims of the war disaster, and could direct some of their supplies to the hurricane victims.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES

Guatemala

American National Red Cross--cash donation\$ 5,000
Direct Relief Foundation (through OAS)--medicines 11,400

El Salvador

CRS diverted 4,829 pounds of USG P.L. 480 food from its stocks. There was also indication that clothing had been donated by CRS, but quantity and value were not reported.

Honduras

CARE and CRS diverted P.L. 480 food commodities mentioned under U.S. Government contributions.

CARE--donated material to rebuild 5 classrooms, valued at\$ 2,200
Mennonite Central Committee--sent a 10-man disaster team from the U.S. to Roatan Island on a 60-day rebuilding assignment. The rebuilding project, sponsored by the Mennonite Disaster Service and Eastern Board, was expected to cost 10,000

Honduras (Continued)

United Fruit Company--made its helicopter available for rescue service.

\$ 12,200

ASSISTANCE PROVIDED BY OTHER NATIONS

Guatemala

Pan American Development Foundation--medicines	\$ 10,000
OAS--cash donation for corrugated metal roofing and agriculture tools	20,000
Costa Rica -- 200 bottles snake bite serum	
Nicaragua (through OAS)--medicines and a six-man first aid team	11,000
Dominican Republic - 2,280 cans Metrecal	
Pan American Health Organization--10,000 vials DPT vaccine, 1 million halazone water purification tablets, six derma-jet injectors, 5 thermos containers for vaccine	*
Brazil - 10 tons medicine, food, clothing	*
Chile - 500 blankets (value est. by DRC \$3 each)	1,500
Germany - cash	5,000
Japan - cash	2,000
France - cash	1,800
Canada - cash	4,620

Red Cross Societies:

Canada - cash	4,620
Panama - cash	1,000
Ecuador	100
Jamaica - cash	60
Peru - cash	500
Israel - Magen David Adom--medicines	1,500
Denmark - supplies	11,740
	<u>\$ 75,380</u>

USAID stated: *"The assistance received from other countries, both governmental and private, was effective and well utilized. It is felt, however, that more assistance might have been forthcoming, including other items, if requests had been more specific. The National Emergency Committee merely sent out calls for help without listing the items which would be used to best advantage."*

El Salvador

Canada - cash

	\$ 4,620
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Honduras

None reported.

* Incomplete or not reported.

EL SALVADOR, GUATEMALA, HONDURAS, NICARAGUA

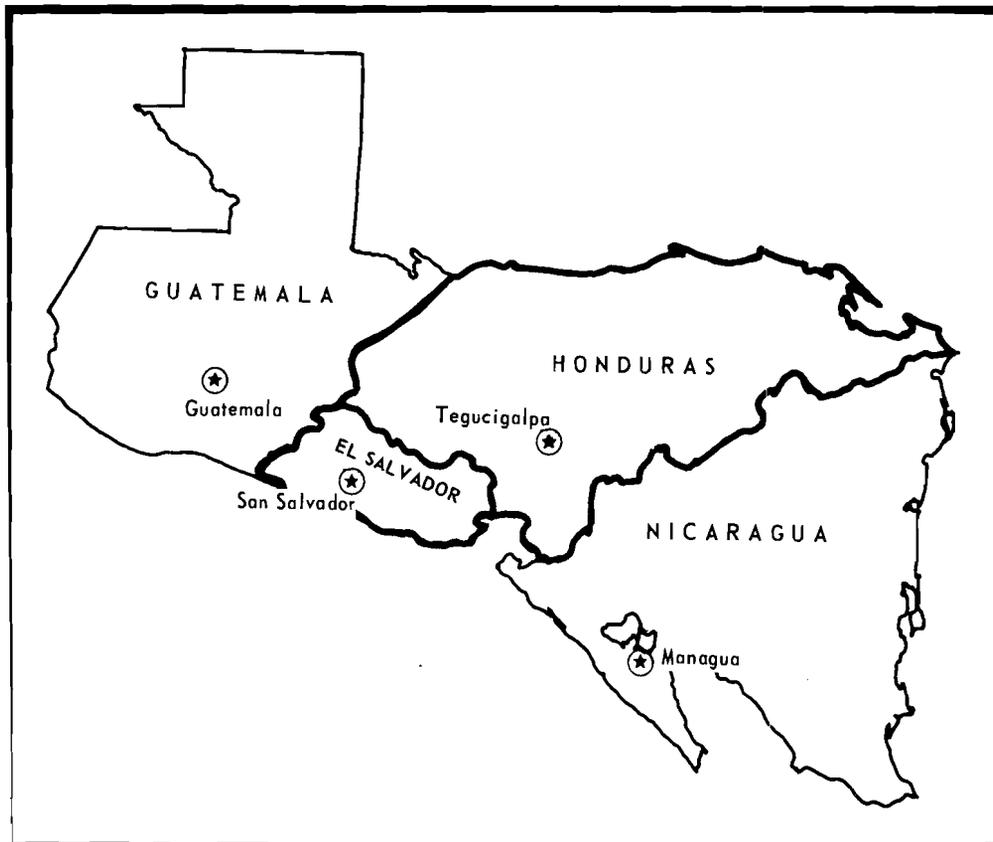
CHARACTERISTICS OF THE DISASTER

EVENT: Undeclared War Honduras/El Salvador - Displaced Civilians

DATE-TIME: July 14-August 5, 1969 (beginning and ending dates of entry and pullout of Salvadoran troops in Honduras)

LOCATION: Displaced Hondurans and Salvadorans in Honduras
 Displaced Salvadorans in El Salvador
 Displaced Hondurans and Salvadorans in Guatemala
 Displaced Hondurans in Nicaragua

DAMAGES:	<u>Civilian Deaths</u>	<u>Estimated People in Need</u>	
	Exact figures not available but estimated to be from 300 to 800 in Honduras	In Honduras	80,000
		Plus Salvadoran detainees	12,500
		In El Salvador	22,000
		In Guatemala	5,500
		In Nicaragua	991
		<u>120,991</u>	



BACKGROUND

Much of the conflict between the sister republics of El Salvador and Honduras concerns land. El Salvador has more than 3 million people packed into an area the size of Massachusetts and has urged her peasant farmers to cross the border. Honduras is five times larger than El Salvador with nearly a half million less people. According to official sources, people from El Salvador had crossed the border into Honduras for many years. This caused many disagreements between the two countries. On June 15, 1969, national insults exchanged over a soccer match led to severed diplomatic relations. Honduras reportedly expelled 14,000 Salvadorans, which provoked El Salvador to precipitate border incidents and to invade Honduras on July 14. Fighting between the armed forces continued for five days and sporadic shooting and violence for an additional 15 days. It was reported that during the five days of intense military activity, 3,000 soldiers were killed, about 60 percent of them Hondurans and the rest Salvadorans.

PEACE ACTION

The Organization of American States (OAS) was called upon to end the conflict. At one time about 70 OAS observers, both military and civilian were on the scene. In Washington, foreign ministers of 21 American nations, members of the OAS, attempted to resolve the dispute. The OAS arranged a cease fire on July 19. A peace plan was offered by the OAS but El Salvador refused to pull back its troops. Two other peacemaking plans were presented by the OAS and rejected by El Salvador. On July 30, after 5 days of special meetings, the foreign ministers of the OAS unanimously adopted resolutions that were acceptable to both sides. The key resolution provided for OAS supervision of human rights for Salvadorans in Honduras and Hondurans in El Salvador. El Salvador began bringing its troops back on August 1, completing the withdrawal on August 5.



Early arrivals at relief camps after long exposure.

GENERAL RELIEF OPERATIONS

An estimated 120,000 displaced persons from the two countries fled to other areas of Honduras, into El Salvador, Guatemala and Nicaragua. Approximately 80,000 of those in need were in Honduras.

By July 20, the U. S. Government and voluntary agencies were engaged in a

coordinated disaster relief operation which included delivery of essential supplies by airlift and services. This operation was successfully completed by October 18, by which date a majority of the displaced persons had been reinstalled in their homes and provided with some of the necessities of life. The combined cost to the USG and U. S. voluntary agencies for this phase of relief in the four countries in which displaced persons were assisted was \$1,805,000. This includes the value of the USG P. L. 480 Food for Peace commodities.

In addition, the U. S. Government, in response to a call by the OAS for all member states to aid the new Inter-American Emergency Fund in providing help for the war's displaced persons, donated \$500,000 for a rehabilitation program, provided the OAS would assume the responsibility for it in both Honduras and El Salvador. The plan included a grant of funds to displaced persons to enable them to return to their homes and to obtain building materials, seeds and tools in order to restore to them the normal means of livelihood. The OAS, which had made an initial contribution of \$25,000 from its working capital funds, accepted the responsibility. Haiti, with a donation of \$20,000, was the only other country to contribute directly to the Fund. Ten other Latin American countries responded to the OAS resolution but gave their aid directly to the afflicted countries or to relief organizations for the victims.

The value of contributions for victims of both countries by other nations and international organizations for both the emergency relief and rehabilitation stages was \$958,292, of which over \$800,000 came from Latin American countries.

Following is a breakdown by country of the relief operations in Honduras, El Salvador, Guatemala and Nicaragua.

HONDURAS

DESCRIPTION OF THE DISASTER:

On July 14, 1969, Honduras was invaded by the military forces of El Salvador along the border areas of the three departments of Valle, Lempira and Ocotepeque. There was no declaration of war. The Honduran populace and the authorities were taken by surprise. The Salvadoran forces, which included irregulars, advanced as far as 18 miles in one area before they were halted by military action.

The area directly affected had a population of about 100,000. Twenty-five townships and their satellite villages, which were occupied by the invading forces, were evacuated by their inhabitants, numbering about 60,000 persons. Numerous other villages were partly or entirely evacuated though not subsequently occupied by the Salvadoran armed forces. In all, an estimated 80,000 people were homeless.

Sacking, looting and some atrocities were committed during the occupation from July 15 to August 5. Reports on the number of civilians who were

killed ranged from 300 to 800. There were no reliable statistics.

Water supplies were damaged and in some cases contaminated with dead bodies. Telegraph and telephone installations were destroyed in the towns where they existed. All movable items were removed or destroyed, including all supplies, tools, equipment and household goods. Some houses, though few, were also destroyed.

Displaced Persons

The civilian population fled from the invading forces and sought safety in the countryside and in neighboring Guatemala and Nicaragua. Most of them were unable to carry any supplies and many received no assistance for up to five days.

By July 21 about 20,000 displaced persons were gathered at 42 different locations where they were given adequate attention. About double that number remained in the hills and woods finding shelter wherever they could.

By August 1 many of the 25 occupied towns had been retaken by Honduran forces but all of them were officially designated unfit for civilian reoccupancy for several weeks due to insecurity as well as unsanitary conditions. Banditry and some killings were prevalent along the border in August and continued into September and October.

From August 5, when the formal delivery of the territories was negotiated, until August 25 measures were taken to correct the physical deficiencies in the towns, army patrols were established and emergency supplies were distributed. On August 5 many of the wanderers started to return to their homes and villages despite regulations, but the 20,000 which had been given shelter were not returned until August 25 and subsequently.

Border Conditions and Fear

A majority of the population of the affected zones are small farmers who dealt in the past mostly with El Salvador. Roads linking them to Honduran markets are bad or non existent, and trade between the areas affected and the rest of Honduras has been slight. Upon returning to their homes, the farmers found no markets, their livestock and other possessions gone, few medical facilities or schools and conditions of insecurity. They were unable to sow their corn and bean crops and so had no expectation of a regular harvest for at least seven months. They had to depend largely on relief supplies for this period.

The high incidence of banditry and murders in the area, the evidence that most of it is organized from across the border, and the lack of faith in the adequacy of protective forces combined to instill fear and discouragement in the unarmed farmers. Mass evacuations of townships continued to take place after cessation of hostilities--some of this only during the hours of darkness and some for more extended periods. In these areas it was estimated it would be a year to 18 months before another harvest could be expected.

Salvadorans in Honduras

In addition to the Honduran evacuees, there were approximately 12,500 Salvadorans detained principally in four locations in Honduras during July and most of August. During the last week in August many were released and during the first week of September the remainder were released. These detainees were all men. Their families were not detained. During the 30 days of September, 13,975 Salvadorans, including families in many cases, crossed the border into El Salvador voluntarily. During July and part of August about 1,250 displaced Salvadorans were in Guatemala and about 100 in Nicaragua. Evacuation of Salvadoran families from Honduras averaged 400 people per day during the first half of October.

Estimates of the number of Salvadorans resident in Honduras before the disaster vary from 125,000 to 300,000, including those having legal entry permits and others. Anti-Salvadoran sentiments became very strong in Honduras after the war and many Salvadorans could not continue to make a living in Honduras. As an aftermath of the hostilities, it was evident that many more Salvadorans would leave Honduras for their homeland, thus increasing tensions both within their own overcrowded country and between the two neighboring nations.

ACTION TAKEN BY THE GOVERNMENT OF HONDURAS AND LOCAL RELIEF ORGANIZATIONS

As areas were reoccupied by the Honduran forces from July 21 until August 2, relief supplies were sent to the towns and villages for the needy. Many of them, however, did not remain in town. They preferred to return to the hills with their supplies.

By August 2 massive food distribution was made in the war zones and from August 5 onward emergency relief was established in the three departments of Valle, Lempira and Ocotepeque. Census figures were obtained, families were listed by age and sex, ration cards were made out and individuals were given special identification cards. About 12,500 families, comprising about 60,000 individuals, received regular assistance and an uncounted number of others received emergency help. Among these were displaced families who were cared for in camps and others who wandered about the areas.

Between July 15 and August 2, wandering families of Hondurans stayed temporarily at 42 separate locations where they were given emergency medical attention, food and shelter. A total of 20,000 people lived in camps such as tent cities, churches, schools, stadiums and villages.

About 34,000 others wandered for weeks without formal assistance and suffered great hardships and some deaths. This period of wandering lasted from July 15 to about August 5 when some started to return to their homes. Many, however, did not return at that time and perhaps 30% of them were still not permanently located as late as mid-October. The 20,000 people who stayed in the relief camps until August 25 and then in an orderly manner returned to their villages by truck, bus, mule back and in some cases by foot were the more fortunate. Attention to the needs of those in the camps



Victims in camps receiving supplies

presented no great difficulties since food was in adequate supply and doctors and medicines were available.

Also, 5,500 Hondurans were sheltered in Esquipulas, Guatemala, and 900 were cared for in Nicaragua. Information on aid given to them is contained in the Guatemala and Nicaragua sections of this summary.

During the period July 15 to Aug. 2, the Honduran Army, through its Civic Relations Office, headed by Colonel Ruben Villanueva, was active in giving first aid, rations and guidance to the fleeing civilians. At that time the Honduran Army had commandeered civilian transport trucks owned by Caritas and by the Comité Pro Defensa Nacional. The Comité called on the Honduran Army for the assignment of trucks and busses and civilian air transport, and on the OAS for the services of U. S.

helicopters to carry displaced persons and to take emergency relief to the sick and wounded. The response was sufficient to meet the urgent needs. Kitchens, health dispensaries and nurseries were set up by the Comision de Desplazados de Guerra (the relief arm of the Comite' Pro Defensa Nacional) with assistance from Caritas/Catholic Relief Services, the Honduran Red Cross, the Peace Corps and other organizations.



Organization and Methods of Disaster Relief

The Government of Honduras has no permanent organization and no stockpile of supplies to meet disaster situations. Despite these serious deficiencies, local citizens and volunteers took emergency action to help those who had been displaced by the war. It was evident that outside assistance

Pictures show people getting ready to return to their village and distribution of supplies in the villages after their return



would be needed to relieve human suffering and the Government of Honduras requested help from the Organization of American States and the U. S. Government.

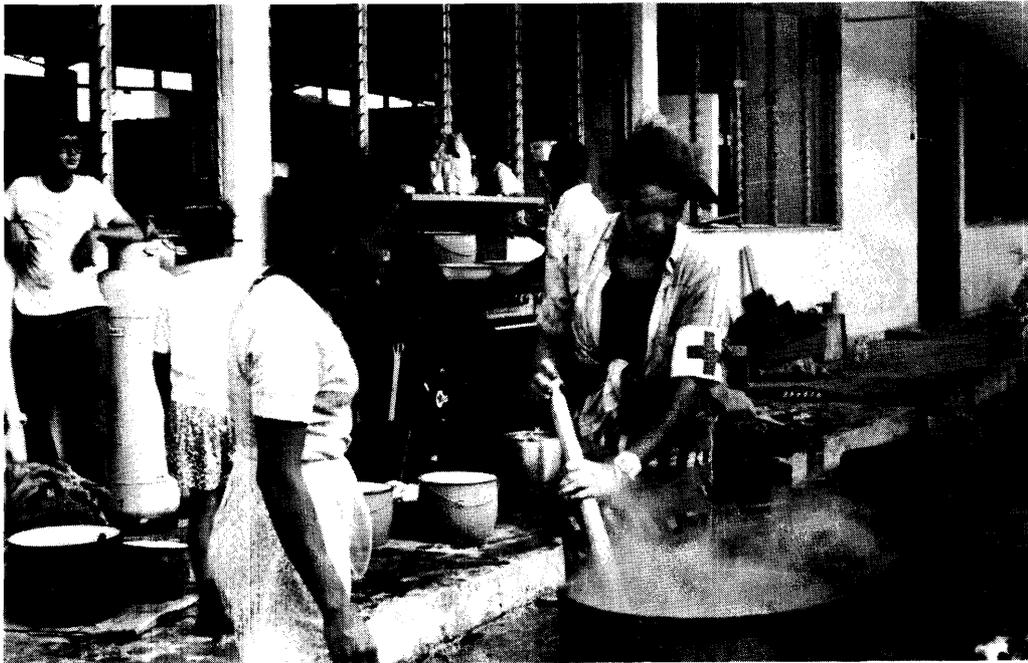


On July 21, 1969, one week after the attack on Honduras, the President of Honduras designated Dr. Miguel Andonie Fernandez, a physician, to organize the Comite' Civico Pro Defensa Nacional (National Civil Defense Committee). That day the Comite' was constituted

with the following members, all except No. 3 and No. 7 being from the private sector:

1. Comision Nacional de Desplazados de Guerra
2. Caritas
3. Junta Nacional de Bienestar Social (Social Welfare Office)
4. Federacion de Estudiantes Unidos de Honduras
5. Asociacion de Trabajadores Sociales
6. Honduran Red Cross
7. Consejo Superior de Planificacion Economica (Planning Board)

All transportation and feeding programs of Honduran refugees and a major part of all other relief programs were channeled through the Comision de Desplazados de Guerra (Commission on Persons Displaced by the War), headed by Fernando Montes, which worked as one unit with Caritas, headed by Padre Arsenault. Caritas in Honduras is backstopped and assisted by Catholic Relief Services, whose American resident representative was Salvatore Pinzino, a U. S. citizen.



Red Cross volunteer preparing food at camp--in this case a school building.

Caritas has an established working organization in Honduras carrying out regular welfare programs. Its churches and their dependencies throughout the country were used as warehouses and offices. Priests and nuns as well as laymen assisted in this work. Caritas was expanded and joined

with the Comision de Desplazados de Guerra to help take care of the displaced persons.

In the absence of other well-organized entities of this nature having equal capabilities, the collaboration of Caritas was the strongest local administrative contribution to the relief effort. Mr. Pinzino was the key figure in this effort.

As is usual in cases of dire emergency, there were many examples of human kindness and strength which assisted tremendously in alleviating misery. Many women, some with jobs and some housewives, volunteered their full time without remuneration to assist the Comision de Desplazados and Caritas, as well as the Red Cross and the Junta de Bienestar Social. They as well as the priests and sisters of the church lived for days and sometimes for weeks in the poorest circumstances and in physical danger to assist the victims. The Federation of University students, young professors and teachers went into the countryside to seek out victims, to take them food and blankets and to administer first aid. Owners of trucks and buses donated their services and the households of many cities and towns were organized informally to prepare meals and assemble clothes for daily deliveries to the war zones. Peace Corps volunteers assisted in the management of the camps.

Supplies and other assistance to the Salvadoran detainees were channeled by the Comite' Civico Pro Defensa Nacional, principally through the Honduran Red Cross, partly through Caritas and partly through citizens' committees organized in the four cities where the detainees were located.

Staple foods for Hondurans and Salvadorans were provided by the Honduran Government from local sources, together with Caritas supplements of USG P. L. 480 commodities, which included NFD (non-fat dried) milk, CSM (corn-soya-milk combination), bulgur, cooking oil and cheese. Food supplies were also donated by the Mennonite Central Committee and by several countries in Latin America.

Tents, blankets, cooking stoves, pots, pans, utensils, and other equipment were delivered to Honduras through AID/DRC from the USSOUTHCOM/AID reserve of disaster supplies located at Panama.

Other planeloads of relief supplies from Panama and the United States, donated by the U. S. Government and U. S. voluntary agencies, followed. Detailed information on these contributions appear on pages in this summary.

Methods of distribution were established with the participation of US AID representatives, i.e.:

1. Guidelines on supply management to warehouses, including transportation controls.
2. Instructions on distribution and use of items in relief centers.
3. Guidelines for distribution of AID supplies by quotas to families after their return to their homes.

The Comision, with assistance from other entities, prepared a census of each township, confirmed by actual head count. It issued identification cards to claimants which were numbered to coincide with supply record cards which were filed at each distribution point.

Deliveries were made to claimants after their return to their villages against presentation of their identification cards and with coincident recording of deliveries in the corresponding file cards. It was emphasized that such controls were needed to save the distribution system from chaos. As a result of the extra man hours required to put the system into effect, it was recognized that losses and misuse were limited to a minimum.

Rehabilitation

The rehabilitation of the war zones of Honduras, placement of the displaced Salvadorans, and reestablishment of the Central American Common Market were some of the more obvious long range problems. The U. S. Government transferred to the OAS from AID contingency funds \$500,000 to be used in rehabilitation programs in both countries.

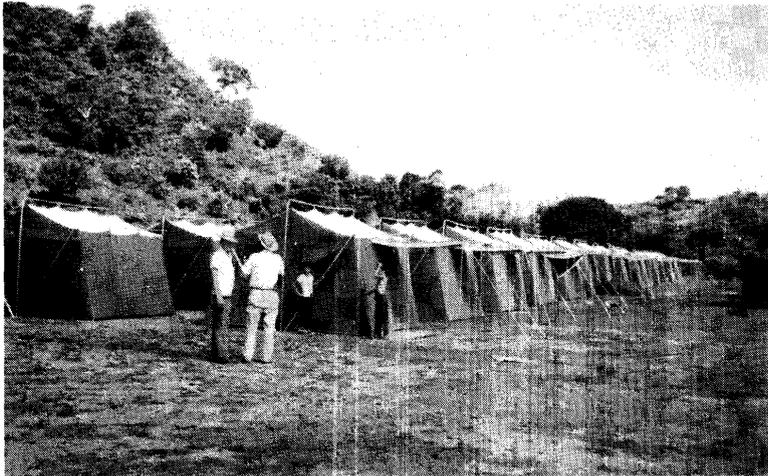
The OAS provided assistance to the Government of Honduras in its recovery program through the Inter-American Emergency Fund as indicated on pages

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

Alerts were received by the US AID Mission in Tegucigalpa immediately after the outbreak of hostilities on July 14. On July 18, before any request for outside assistance was received, the U. S. AID Mission Director Walter Stoneman requested that Stephen R. Tripp, AID Disaster Relief Coordinator come to Honduras to assist him in making personal surveys of the emergency situations.

On July 19, USAID/Honduras transmitted a request for disaster relief, and on July 20, three C-130 US Army cargo aircraft arrived in Tegucigalpa carrying tents, blankets, cots, sewing, hygiene and school kits, canteens, water cans, cooking and eating utensils and stoves for the civilian victims and for the detainees, in response to instructions from Mr. Tripp's office. These supplies were brought in from the AID/USSOUTHCOM disaster relief stockpile in Panama. Within the next week seven additional C-130 and C-140 US aircraft arrived with similar supplies, some from Panama, others with supplies from the United States. The Panama stockpile was practically depleted. These timely deliveries made it possible to arrange for prompt care to the needy upon their arrival at various points in Central Honduras and contributed much to the relief of human suffering. The importance and the effectiveness of this assistance, because of its immediacy and impact, cannot be overemphasized.

On July 29, Mr. Carson O. Crocker was appointed as a consultant and designated as Disaster Relief Officer in Honduras. He was assigned to



USG-donated tents in Honduras

supervise U. S. efforts, coordinate these efforts with all other associated programs and to assist in the disaster situation. He worked under guidelines from Mr. Tripp's office in AID/W and reported to the US AID Mission Director. Mr. Crocker arrived in Honduras on July 30 and remained until October 18, participating actively in all phases of the emergency relief operations

Following the arrival of the AID supplies, which effectively complemented

Honduran national efforts during the first few days of the emergency, it became mandatory to implement additional steps in the relief operation. With some persons temporarily sheltered and others unaccounted for, the next immediate concern, after troop withdrawal, was to make it possible for all displaced persons to return to their homes and to resume their normal occupations.

A program was outlined and lists of needed items prepared by a working group consisting of the principals of the Comite', the Comision, the Honduras Red Cross and USAID/Honduras. One of the items which merited top consideration as a factor in a return to normality was personal hygiene, and USAID agreed to provide soap, towels and clean clothing.

Clothing, Special Emergency Project

Bearing in mind that the displaced people had no personal possessions or clothing, it was decided to provide every woman and girl with two or three petticoats (called forros), which in tropical Honduras is used as the only garment by most country women; to provide every boy up to the age of 14 with two sets of shorts and singlets; and every baby up to the age of one year with six diapers and two small bed-sheets. No provision was made in this plan for men's clothing because generous contributions



Distribution of USG-donated cloth/toweling

of used clothes were received from the Mennonite Central Committee, CRS, CARE and from private donors. Women's "forros" are of a pattern not usual in the United States and diapers are of the old fashioned large square type which are folded into triangles. Given the advantages of making these locally at low cost, USAID decided to request the shipment of 150,000 yards of appropriate white cloth. AID/DRC chose an excellent "birds eye" cotton yardage and arranged immediate air delivery with the help of the manufacturer, Dundee Mills, and a chartered airlift.

Due to the disorganization caused by the conflict in Honduras, only one bidder was able to respond to the invitation to bid on the making of these clothes. His small factory only had 14 sewing machines. His bid was, by US standards, very moderate in cost, but the problem was scheduling production of tens of thousands of items to meet the emergency timetable. Responding to the pressure of the requirements, the small factory **cancelled** all normal production and the owner borrowed 45 sewing machines, recruited temporary help, and placed the whole operation under the supervision of his wife and her sister. Work was performed in three 8-hour shifts every day for five weeks to complete the project. The garments were well made.

While this accelerated small industry program was progressing, volunteer women's groups, working with assistance from Caritas, obtained sewing machines and made large quantities of diapers, bed sheets and children's bloomers out of the same material.

As the items were completed, they were rushed to the distribution points where special women's teams sorted them by size and classification. Where census data was complete, garments were pre-packaged to meet the specific needs of each family group and where census data did not adequately cover age or sex tabulations, garments were hand chosen at the time of distribution.

The expertise, patience and initiative of the sisters of the Church, the school teachers, the social workers and other volunteer women involved were taxed to the utmost in achieving a fair and adequate distribution. Clothes were so necessary, so greatly desired that the difficulties of fair control were greater than usual.

The operation was carried out successfully and one of the most satisfying sights of the whole rehabilitation program was that of many mothers bathing naked children in a running stream, drying them on clean towels and dressing them in clean white garments. An equally satisfying sight, of course, was to observe the mothers going through the same healthy and dignifying process themselves.

Relief Problems

1. Errors of Assessment

Initial reports from the field stated that 25 towns had been

completely destroyed and would have to be rebuilt. In fact, although the towns were all completely sacked, very few buildings were destroyed. Only one town suffered major destruction of buildings. The original terms of reference in this respect were fortunately inaccurate. On the other hand, the relief effort was planned on the basis of the population of 25 towns attacked and occupied by the enemy, approximately 60,000 people. In fact, many towns which were not attacked were nevertheless evacuated and these towns were also sacked of all movable items by looters. Consequently, the number of people requiring relief was underestimated, indicating the need to estimate secondary or "rebound" effects of the disaster. The affected zone had very difficult transportation problems due to bad roads and trails and lack of bridges. Accurate assessment of these problems would have indicated the need of four-wheel drive vehicles, mules and possibly the clearing of landing strips for light aircraft and helicopters.

2. Transportation

In addition to the need of special items mentioned immediately above, there were difficult transportation problems due to the overtaxing of all facilities to meet military needs.

3. Inadequacies of existing Government organizations for Disaster Situations

Whereas the organizations described in "Organization and Methods of Disaster Relief", page 136, were successful in their over-all efforts, at certain times they counted upon Government assistance but did not obtain it in adequate amounts and coordination was poor. It is recognized that these neutral functions of administration are extremely difficult to achieve.

4. Records and controls

The crucial problems of relief operations are the measurement and control of distribution to the ultimate beneficiaries, the poor civilian war victims. It was necessary to take extraordinary precautions to recognize residents, issue identification cards, establish ration card files and issue supplies accordingly. These problems were solved principally by using personnel familiar with residents of each town, such as priests and teachers, and exercising continual control of cards and records.



Issuing identification/ration cards

Summary of Recommendations for Future Disaster Planning

1. It is advisable for each country or each AID Mission or both together to have a plan for disaster relief, and to designate a skeleton staff ready to go into instant action.
2. Stockpiles of essential items should be available to each country.
3. Assessment of the character as well as the total effects of a disaster should include secondary or "rebound" aspects. AID Missions should not depend on unauthenticated reports for these determinations.
4. As soon as possible after a disaster is declared, it should be determined what assistance is needed in addition to supplies. Such assistance may include administrative, operational, medical or scientific personnel, transportation or medical equipment, construction materials and other special items to rescue or aid disaster victims.



Miss Jean Wilkowski, U. S. Charge' d' Affairs, greets the First Lady of Honduras, Mrs. Gloria de Lopez Arellano, following delivery of first USG-donated cargoes. Standing next to Mrs. Arellano is USAID Mission Director Walter Stoneman and on the right Mr. Edwin P. Astle, USAID Chief of Office of Private Developments.

RECAP OF USG ASSISTANCE TO HONDURAS

	From US	From Panama Reserve	By USAID/ Honduras	Cost Air/Other Transportation
23,856 blankets	\$ 44,623			\$ 8,466
10,000 blankets	17,566			
150,000 yards of cloth and 1,000 doz. towels	43,050			9,056
Syringes & needles from DSA	3,158			461
Water Purification Tablets(DSA)	1,026			
Other supplies DSA	6,966			
Knives, forks, spoons	2,538			
600 tents		\$ 54,397)		9,153
1700 cot sleepers		5,100)		
2,000 single & double cots		19,000		6,815
600 economy camp cook sets		4,590		973
100 Field cooking outfits		10,600		
Knife, fork, spoon, ladle cook sets		1,031		
2,000 wool blankets		6,800		1,363
10,000 cotton blankets		18,611		5,116
2,300 synthetic fiber blankets		4,600		3,252
Transportation costs on supplies donated by MCC, CRS, CWS, World Vision, ARC and other				7,211
TDY Assistance from AID/ DRC (Tripp, Crocker and Bekman)	15,737			
1500 cases of soap	1,350			
Transportation charges US Military, including 8 hours use of C-47				21,743
Riot batons, helmets, gas grenades, combat meals for OAS Observers			11,028	
Plastic & aluminum articles, pots, soap, etc.			51,296	
Tailoring of cloth			12,926	
Local transportation costs				5,155
Communications & misc. costs			1,214	
Local personnel costs and in- country travel			2,614	
Seeds, tools, fertilizers and distribution costs			7,836	
	\$136,014	\$124,729	\$86,914	\$78,764

TOTAL - \$426,421

Carry forward \$426,421

In addition the U. S. Government donated \$500,000 for rehabilitation of the civilian victims of the Honduras/El Salvador conflict, of which \$100,000 went to El Salvador 400,000

USG P. L. 480 Food for Peace commodities were distributed to over 30,000 people for a period of five or six months by Catholic Relief Services and consisted of: 300,000 pounds of oats; 300,000 pounds of NFD milk; 150,000 pounds of vegetable oil; and 750,000 pounds of bulgur. Estimated value 121,155

Total USG Contributions 947,576

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND OTHER US ASSISTANCE:

American National Red Cross

Cash donation	\$2,900	
Individual cash donations thru ANRC	1,190	
Infant supplies	1,061	
150 units serum albumen	3,400	
Medicaments--shipped prior to the disaster but used in the disaster relief	<u>3,672</u>	\$ 12,223

Catholic Relief Services

A National War Victims Committee was established by the National Civil Defense Commission on July 28 to organize and provide assistance to the displaced war victims. The Committee was composed of Caritas de Honduras, the National Welfare Agency, the Association of Social Workers, the Red Cross and the National Medical Council.

Caritas de Honduras placed its office, staff, and warehouses at the disposition of this committee. Each organization of the Committee was assigned a specific function. Caritas was assigned food acquisition and distribution. Both Catholic Relief Services and Caritas staffs worked around-the-clock to help organize and execute the War Victims Committee relief plans. CRS supplemented locally donated foodstuffs with USG P.L. 480 food.

CRS/New York arranged for their Regional Director for Central America and the Caribbean to go to Honduras to assist the Government of Honduras, Caritas, and CRS staff on the scene in the relief program.

From its own resources, CRS provided:

Transportation and tools	\$10,000	
33,500 pounds of clothing (20,000 lbs. from US and 13,500 lbs. transferred from Nicaragua)	50,000	
Cash for expenses and local purchase of soap, disinfectants, canned goods, etc.	<u>15,000</u>	75,000

Church World Service

Multi-purpose food, vaccines, medicines and clothing\$ 22,852

CARE

CARE provided the following items from its own resources and also a medical team. Honduran Government officials were warm in praising the outstanding work done by the CARE medical team in the area of Santa Rosa de Copan, north of San Pedro Sula.

Medicines valued at\$ 7,000
1,000 plates, cups and spoons 226
Local purchase of coffee and sugar 1,035 8,261

Mennonite Central Committee

Two shipments of new and used clothing consisting of 322 bales\$66,404
14,001 pounds new and used clothing and shoes and canned chicken 21,524 87,928

Seventh-Day Adventist Welfare Service

1,365 lbs. blankets and 20,483 lbs. clothing, shoes 21,743

Direct Relief Foundation, thru Pan American Development Foundation

Two shipments containing vitamins, antibiotics, analgesics, tranquilizers, anti-bacterials, cold tablets, cotton goods, and a few sterilizers, valued at 30,000

U. S. Pharmaceutical Companies through Pan American Development Foundation

Wyeth--anti-spasmodic drug, tranquilizers, antihistamines \$7,750
Ayerst--multivitamins and antacids 11,200
Pfizer--antibiotics 15,000
Pitman-Moore--antihistamines, novahistine syrup 1,500 35,450

Total - U. S. Voluntary Agency Contributions\$293,457

OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

Organization of American States

The OAS arranged for a cease fire and negotiated a peace settlement between the two countries. It also agreed to be responsible for a rehabilitation program in both countries which was a provision of the USG for a \$500,000 cash donation for this purpose. This \$500,000 has been credited under USG donations and is therefore not included in the totals in this section to avoid duplication. Commitments already made by the OAS against this \$500,000 are:

Honduras - National Development Bank	\$150,000
Honduras - Pan American Sanitary Bureau	100,000
Honduras - Development Foundation	100,000
El Salvador - Pan American Sanitary Bureau	100,000
	<u>\$450,000</u>

The OAS reported receiving \$78,892 worth of medicines, clothing and other items from private and commercial organizations which were donated through the Pan American Development Foundation. Most of this, however, came from U. S. pharmaceutical companies and the Direct Relief Foundation, and credit has been given under U. S. voluntary agencies section of this summary-- totaling \$65,450. Credit for the balance of \$13,442 is reported below.

The OAS also set aside from its Working Capital Fund the sum of \$25,000 and in addition Haiti donated \$20,000 to the OAS fund for this disaster. These amounts are also credited below.

Organization of American States	
From its working capital fund	\$25,000
From Haiti	20,000
From PADF and PAHO--medicines, equip., transp.	<u>13,442</u>\$ 58,442

The Vatican - cash 5,000

Oxford Committee for Famine Relief (OXFAM) through Caritas 10,000
\$ 73,442

Other Nations

Canada - one truck	\$ 6,500
Spain - medicines	*
Argentina - medicines, clothing, food and equipment; 4,000 tons of wheat	350,000
Brazil - medicines	7,250
Chile - medicines	1,500
Mexico - cash	10,000
Panama - medicines	40,000
Peru - medicines	4,600
Nicaragua - utensils	25,000
Venezuela - 2 doctors, 2 public health special- ists, 2,000 kilos rice and a large quantity of medicines and medical supplies	*
Guatemala - see section on Guatemala	
Colombia - general supplies	<u>*</u> <u>469,850</u>

Total, Other Nations and International Organizations\$543,292

* Incomplete or not reported.

EL SALVADOR

Estimates on the number of Salvadorans resident in Honduras before the war vary from 125,000 to 300,000. Following the departure of an estimated 14,000 Salvadorans from Honduras, a border war broke out between El Salvador and Honduras on July 14. After the acceptance of the OAS Peace Plan by both sides on July 30, El Salvador withdrew its troops by August 5. During the period of the war some of the Salvadoran men, resident in the country, were gathered together by the Government of Honduras and detained at four different locations in Honduras. By the end of September, these 12,500 detainees had been released. Many returned to El Salvador. There were also thousands of other Salvadorans, for reasons of security or because they could no longer make a living in Honduras, who returned to El Salvador. By November 13, 1969, a total of 65,000 had crossed the border into El Salvador. Not all of these returnees required assistance. The Salvador Red Cross reported taking care of about 22,000 of them as of August 3, but later influx of displaced people no doubt increased this number.

The International Committee of the Red Cross reported that the last Honduran civilians, who were still held in El Salvador, had been released and repatriated on October 6, crossing the frontier at El Amatillo. There was no indication in the ICRC release on the number.

RELIEF OPERATIONS BY THE GOVERNMENT OF EL SALVADOR AND LOCAL ORGANIZATIONS

The GOES appropriated \$200,000 to meet the most urgent immediate needs of the displaced people, and the legislature approved the transfer of \$1.2 million from autonomous agencies for settlement of the displaced people, including various public works and community development projects. The GOES requested food assistance through the World Food Program and medicines from the USG. The El Salvador Red Cross was given the responsibility for caring for the displaced people and was aided by Protestant and Catholic Churches and other local relief organizations.

The Salvadoran Red Cross provided food, clothing, money and bus fare to transport the returnees to their places of origin where local emergency groups helped them. The Rural Colonization Institute of El Salvador undertook to locate an estimated 640 displaced families on land belonging to the Institute.

ASSISTANCE GIVEN BY THE ORGANIZATION OF AMERICAN STATES

The OAS purchased medicines and medical equipment for the victims in El Salvador through the Pan American Sanitary Bureau. These supplies cost \$37,570, plus shipping costs of \$7,430 for a total of\$45,000.

The PASB also obtained donated medicines from several of the U.S. pharmaceutical companies.

From the \$500,000 grant by the U. S. Government for rehabilitation programs for use in both countries, as necessary, the OAS committed \$100,000 to the PASB for El Salvador. The PASB is to concentrate on developing potable water supplies, housing and sanitation necessary to obtain minimum acceptable health conditions in the areas affected by the influx of 65,000 returnees. This will include construction of 15 rudimentary water services and 10 public systems of potable water.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

The U. S. Government was requested to supply certain medicines and medications for use by the El Salvador Red Cross. The Ambassador exercised his disaster relief authority for purchase and airlift of the drugs from the United States and requested AID/DRC to make necessary arrangements for purchase and delivery. AID/DRC obtained most of them from the Defense Supply Agency and the balance from several U. S. pharmaceutical companies. Estimated cost including airlift\$ 25,000

From the \$500,000 donation to Inter-American Emergency Relief Fund by the U. S. Government, the OAS committed to El Salvador for rehabilitation 100,000

USG P.L. 480 food was provided as follows:

Catholic Relief Services distributed through the Salvador Red Cross 90,000 lbs. of PL 480 commodities. Kind and value were not reported but value estimated about 5,000

The World Food Program requested that the USG furnish the following commodities to be distributed to approximately 10,000 adults and 15,000 children for a period of six months: 450 MT cornmeal, 270 MT nonfat dry milk, 225 MT vegetable oil. USAID El Salvador concurred in the need and the contribution was approved by AID/W. Estimated market value\$238,000
Ocean freight charges 75,000 ... 313,000
\$443,000

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND OTHER U. S. HELP

Catholic Relief Services

CRS made available the above 90,000 pounds of PL 480 food and donated disaster supplies from its own resources as follows:

20,000 pounds clothing valued at \$1 per pound ...\$ 20,000
Large quantity of aspirin, valued at 6,000
Chevrolet panel truck to be used by the Salvador Red Cross as an ambulance, value estimated by DRC at 4,300 ... \$ 30,300

Seventh-Day Adventist Welfare Service

20,799 pounds of used clothing at \$1 per pound.....	\$20,799	
1,820 pounds of used blankets.....	<u>1,680</u>	\$22,479

American National Red Cross

3,400 pounds of clothing.....	\$ 3,000	
3,000 pounds of drugs, medicaments.....	30,369	
Cash.....	<u>4,000</u>	37,369

U. S. Pharmaceutical Companies

Upjohn, through AID/DRC		
600 pts. Kaomycin, plus airlift.....	\$ 3,068	
Upjohn, through PADF		
25,000 tablets Erythromycin.....	4,222	
Lederle, 100 vials gas gangrene sera.....	<u>2,250</u>	9,540
		<u>\$99,688</u>

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

Caritas, International - cash donation.....	\$ 5,000	
The Vatican - cash donation.....	5,000	
Argentina - 4,000 tons of wheat.....	350,000	
Mexico - cash.....	<u>10,000</u>	\$370,000
Organization of American States - for medicines and airlift.....	<u>45,000</u>	
		<u>\$415,000</u>

The Organization of American States reported contributions from several Latin American countries, but there was no breakdown on how much went to El Salvador and how much to Honduras. Since the largest number of needy victims were in Honduras, it is assumed the majority went to that country. Therefore, these contributions are listed under Honduras.

GUATEMALA

The Organization of American States reported that by July 24, 1969, some 5,000 displaced Hondurans and Salvadorans had fled the border areas of these countries into border regions of Guatemala. This figure was later raised to 5,500. Approximately 4,500 were taken care of in Esquipulas, Chiquimula Department, and 1,000 in border communities of Agua Caliente, Camotan, Jocatan, Puerto Barrios and others. The majority of them were Hondurans who had crossed the border from the State of Ocotepeque; most were women and children; men in the groups were the very old.

ACTION TAKEN BY THE GOVERNMENT OF GUATEMALA AND LOCAL ORGANIZATIONS

The Government of Guatemala Army took a census of the displaced people, provided numerous social workers, loaned army equipment including one field kitchen, one water trailer, two large tents and miscellaneous items. It also established controls to prevent migration outside of the area, although the people were permitted to return to Honduras if they wished.

The Guatemala Red Cross assumed the major responsibility for the relief operations and received generous contributions of food, money, clothes and medicines from many sources. Many public and private agencies began social programs to solicit help for the victims but in an uncoordinated way. Following are agencies who helped in the relief work and a short statement on their contributions:

Guatemala Red Cross - coordination of all relief work in the camp.

Guatemala Army - see above.

National Association of Social Workers - volunteer staff of social workers, census takers, recreation leaders, medical assistants. The volunteer staff were on loan from a variety of social welfare agencies.

Boy Scouts - medical aid, general patrol work and manual labor.

Local schools and churches - locations for sleeping, eating, coordination of activities.

CARE - material goods, food, clothing.

CARITAS - volunteers and material goods.

IGGS (Social Security Institute) - volunteers and medical supplies.

Numerous contributions of food and clothing from private organizations, companies and individuals.

The community of Esquipulas responded in an outstanding manner to help the displaced persons. They gave assistance with considerable enthusiasm and dedication. Not only did they provide shelter but many of them permitted displaced people to occupy vacant rooms in their homes. Large quantities

of food and other necessities were provided by the community. Following is an excerpt from a report received from Catholic Relief Services:

"Sleeping space in homes, hotels and other places is being provided without charge. The Red Cross, with the help of the Bethlemite Sisters and two Papal Volunteers from New Orleans, organized the cooking facilities in central kitchens. The most amazing response has been that of the Guatemalan farmers around Esquipulas. Large quantities of food and clothing have been sent from Guatemala City and other large cities in the country, but the local farmers in and around Chiquimula have provided, from their own small production and stocks, sizeable quantities of foods."

The U. S. AID Mission made the following comment:

"The Guatemalan Red Cross has done a commendable job of organizing and coordinating the relief measures taken to meet this emergency situation. This was the first time the Red Cross had been involved in anything more than simple one-time assistance and so had no experience in this type of operation."

The OAS also reported on the sincere and genuine help provided by the local community, even though the influx of these displaced persons created a considerable burden on them. Public and private schools and other public services had to be curtailed to take care of them. Every housing facility was taxed to the limit. In the beginning there was difficulty in feeding them because there was only one field kitchen and the victims had to spend from three to four hours per day in the mess line. At first the Red Cross did not permit the women in the camp to help prepare the meals or to obtain bulk food from the warehouse to cook elsewhere. This policy was later modified and tended to speed up meal preparation.

By August 9, all of the displaced Hondurans had returned to their country and the Red Cross discontinued its operations in the area.

Estimated cost to the Government of Guatemala and its relief organizations for aid given to the displaced persons was placed at\$25,000

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

The American Ambassador exercised his disaster relief authority to approve expenditures from the AID contingency fund to assist the Government of Guatemala and the Red Cross in their relief operations.

Following are the charges that were made against the worldwide disaster relief account:

500 blankets, purchased locally	\$1,000	
Air transport costs for tents and clothing		
donated by CWS	981	\$ 1,981
PL 480 food commodities, valued at		3,000
		<u>\$ 4,981</u>

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES

Church World Service - 4,150 lbs blankets; 1,972 lbs tents..... \$ 4,125

CARE - Diverted USG PL 480 flour, dry milk and CSM

Seventh-Day Adventist Welfare Service - 1,365 lbs of used blankets;
9,123 lbs of used clothing..... 10,383
\$14,508

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

Not applicable--see Honduras and El Salvador sections.

NICARAGUA

At one time during and immediately after the undeclared war between Honduras and El Salvador, there were 983 displaced war victims in Nicaragua. They had crossed the Honduran border mostly from El Espino. The largest number of these, 786, were in Somoto. Of these, 461 were cared for by the Government of Nicaragua, while 325 others lived in Somoto on their own or with friends. Most of these people were women and children. Those in other locations in Nicaragua were 47 in Chinandega and 150 in Esteli.

ACTION TAKEN BY THE GOVERNMENT OF NICARAGUA AND LOCAL ORGANIZATIONS

The National Guard coordinated relief operations by local voluntary agencies in cooperation with the Nicaraguan Red Cross. The Government of Nicaragua erected 85 tents and constructed sanitary facilities in Somoto in order to vacate the school in which the displaced people were first housed.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

Catholic Relief Services diverted 12,497 pounds of USG PL 480 food for the war victims. Value estimated at.....\$ 1,200
The Peace Corps donated 800 lbs of fish, value estimated by DRC... 400
\$ 1,600

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES

Catholic Relief Services - released above P. L. 480 food to meet the request of the Bishop of Somoto to feed 600 of the displaced people.

CARE - 100 cases of canned, fortified milk, value not reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

Not applicable - see Honduras and El Salvador sections.

EL SALVADOR, GUATEMALA, HONDURAS, NICARAGUA

CHARACTERISTICS OF THE DISASTER

EVENT: Equine Encephalitis Epidemic

DATE-TIME: June-December, 1969

LOCATIONS: See Descriptions Each Country

DISASTER VICTIMS:

<u>Human Cases</u>	<u>Human Deaths</u>
27	16
<u>Equine Cases</u>	<u>Equine Deaths</u>
Unknown	About 18,000

DESCRIPTION OF THE DISASTER:

General

Venezuelan Equine Encephalitis (VEE) affects primarily horses, mules and burros. When it appears in an area, it spreads rapidly and a high percentage of the animals die. It can also be transmitted by mosquito to man from the infected animals. It is a brain damaging disease. When children get the disease, it is often fatal. Generally adults experience fairly benign cases. A vaccine has been developed through research at the U. S. Army Medical Research Institute of Infectious Disease (AMRIID), Ft. Detrick, Maryland, but there is no marketable vaccine. The vaccine is licensed for research and therefore the U. S. Army and pharmaceutical contractor are the only sources of the vaccine. It is a vaccine for both humans and equines but can only be released under appropriate supervision to control outbreaks among equines, after evaluation of the outbreak has been made by qualified professionals and use of the vaccine for equines is recommended by them. Immunity against VEE is thought to be ten years following vaccination.

The epizootic (animal epidemic) first struck along the southeastern frontier of Guatemala with El Salvador during the last week of June, 1969, and extended north and east to the mountains along the Salvador and Honduras borders. The first cases occurred in Honduras September 5 but were not reported to the GOH Ministry of Agriculture until later in the month. Sometime around the first of October it appeared in Nicaragua. Approximately 18,000 animals in these four countries died from the disease.

The threat of its serious consequences to humans caused two of the U. S. Missions to declare it a disaster and to authorize use of USG contingency funds to help control the outbreaks. That this was a very real fear is substantiated by the Ecuador Equine Encephalitis Epidemic of May 1969, which is included in the Ninth Report on Foreign Disaster Emergency Relief. In this epidemic there were 40,000 human cases and 400 of them died, mostly children.

Humans were also affected in Guatemala and El Salvador but to a lesser degree. The human cases of VEE apparently began in early July along the Pacific Coast near the border between Guatemala and El Salvador. In Guatemala, the illness generally occurred in areas where horse deaths had occurred, especially around Lake Guija (Jutiapa Department), in the Motagua Valley, and along the Pacific Coast. Likewise in El Salvador, human disease followed horse illness, especially in the Metapan and Herradura (La Paz Department) areas. Most human illness was mild and lasted only a few days. Symptoms included fever, headache, aches and pains and vomiting. Between July 1 and August 29, 19 cases of frank encephalitis consistent with VEE were reported (but not confirmed) in El Salvador. Of this number, 12 deaths were recorded. In Guatemala, eight cases with four deaths were noted. Human cases of encephalitis were reported from the area of Metapan, San Pablo Tacachico, El Paisnal, and Santa Ana in El Salvador, and from Montufar (Jutiapa Department), Zacapa, and the Lake Guija areas of Guatemala. Most of the patients were children, and both sexes were affected equally. Symptoms were those of somnolence, disorientation, and stupor, with no localizing signs noted in the four cases examined by the NCDC team members. There were no reports of human deaths in Honduras or Nicaragua.

Guatemala - Development and Extent of the Disease

The disease began to take on epizootic proportions in Guatemala about the last week in June. The first horse deaths were reported along the Pacific Coast in the vicinity of Pedro de Alvarado near the El Salvador border early in June. The agricultural authorities were not alerted, however, until late in June. The disease spread westward on the coastal plain in Guatemala and along the Guatemala-El Salvador border. Then equine mortality was reported in the area north of Metapan region. From there it moved north and east into the Motagua River Valley (Zacapa and Izabal Departments). There are no precise figures available on the attack rate and case fatality rate in horses for the entire epizootic area, but a survey of the area first affected, made early July 1969, showed that of 2,324 equines in the area, 776 (33.4%) had been ill within the preceding two months and 621 had died, giving a case fatality rate of 80%. From 6,000 to 10,000 animals died in Guatemala. There were 8 human cases and 4 deaths reported. By December 4, 1969, the epizootic in Guatemala had been brought under control.

El Salvador - Development and Extent of the Disease

The epizootic began during the first half of June in the Department of Ahuachapan. The initial focus was in the southwest corner of the country on the Pacific Coast and also involved the Department of Santa Rosa in Guatemala. It was concluded that this was a single epizootic involving the

two countries.

The disease spread rapidly in the areas along the Guatemala-El Salvador border and by early July was reported from the northwest corner of the country to the Pacific coast. The greatest concentration of cases was reported in the areas around Nueva Concepcion, San Pablo Tacachico and La Pita in Chalatenango. Scattered cases were also reported in La Libertad, near Playa Amatecampo and Playa Los Blancos. To some extent the movement of equines from areas of high incidence into "free areas" accounted for spread of the disease. This movement was accomplished by truck and in regular commerce and travel.

In late August it again reached epizootic proportions along the coast in the eastern part of the country. The increase followed heavy rains which caused widespread flooding. Equine deaths were reported in the Departments of La Paz, San Vicente, Usulután and San Miguel. The greatest incidence was reported from the latter two departments. Scattered cases appeared in Sesori and Guachipilin in Morazan.

The epizootic affected approximately 75% of the country with an estimated 1,500 to 2,000 equine deaths. The period of the epizootic extended from early June to September 20th. There were 19 human cases with 12 deaths.

Honduras - Development and Extent of the Disease

While the first cases were found in Honduras on September 5, they were not reported until ten days later to the Ministry of Agriculture and it had been reported up until that time that there was no incidence of the disease in Honduras. By September 26, it had reached epizootic proportions in one area of Honduras. The potential disaster effect of the rapid spread of the disease in Honduras, following so closely on the heels of war and hurricane disasters in that country, caused the U. S. Ambassador to exercise his disaster relief authority to commit disaster funds for vaccine and control. Estimates of the total number of equine deaths from September through December ranged from 1,500 to 2,000. There were no human cases or deaths reported.

ACTIONS TAKEN BY THE VARIOUS GOVERNMENTS AND LOCAL ORGANIZATIONS

Guatemala

When the GOG agricultural authorities were alerted in late June of the occurrence of an equine disease suspected of being Venezuela Equine Encephalitis, a quarantine was placed on the area to prevent movement of the horses. There had been cases noted in early June but there was a delay in reporting to the appropriate authorities. By the time this was done a number of horses had already died. Identification of equine encephalitis was made at the Veterinary Faculty, using the HI Test. At the request of the GOG Minister of Health, a team from the Middle America Research Unit (MARU), Balboa, Canal Zone, Panama, arrived on July 4 under auspices of the Pan American Health Organization. They spent four days in

the country taking serum, throat and nasal samples from both horses and humans and on July 17, MARU notified PAHO, Zone III, Guatemala, of a definite virus isolation of VEE. A team from the National Communicable Disease Center, Atlanta, Georgia, was requested to investigate the disease and arrived shortly after the MARU team. An emergency was declared by the President of Guatemala and an Equine Encephalitis Control Program was set in motion early in July, with the Minister of Agriculture as its principal coordinator. He asked the President of the Republic for and obtained an initial \$20,000 to fund the control campaign. He also asked for and promptly received 50,000 doses of VEE vaccine from U. S. Army (AMRIID) sources, as well as U. S. professional assistance in administering the vaccination campaign. Ministry of Agriculture personnel, transportation and administrative resources were thrown into the campaign.

Twenty-six veterinary doctors were assigned to the Sanitary Brigade, each of them with an assistant, as the disease spread to adjacent areas. Veterinarians came from the Ministry of Agriculture, University of San Carlos and Guatemalan private sources. In time, the operation extended from the Pacific Coast to Escuintla Department in a line running northward to Izabal Department with sporadic outbreaks in Peten and occasional cases in Alta Verapaz Department. The infected zone also extended north and east to the mountains along the El Salvador and Honduras borders. During July and August, a total of 150,000 doses of VEE vaccine had been airlifted to Guatemala. By December 4, 146,150 had been administered leaving a reserve of 3,850 doses. Allowing for a 10% loss on the vaccine dose to such variables as vaccine not being refrigerated properly or from improper administration, approximately 120,000 animals were inoculated. Campaign activities were suspended by the GOC on December 4 but the normal GOG contingent of 14 veterinarians were still deployed in the affected areas and continued to clean up areas that were bypassed during the height of the campaign.

Expenditures of the GOG for the campaign amounted to about \$60,000. The Department of Defense of Guatemala provided helicopters in the early phases of the epizootic to transport technicians from the U. S. National Communicable Disease Center (NCDC) to the first outbreak areas.

Investigation in Guatemala on human cases was begun by a team from Cornell Medical School. They, along with the epidemiologist from the GOG Public Health and virologist from the medical faculty, conducted a house to house survey in several villages near the site of the original outbreak. Subsequently other outside health teams (See under USG Assistance) investigated incidence of the disease among people.

El Salvador

The Government of El Salvador requested assistance from the USG through USAID/San Salvador in providing vaccine and professional help.

On July 14, 1969, Engineer Mario Paredes, Director General of Livestock, and his staff met with USAID personnel and Dr. McKinney from the U. S. Army

Medical Research and Development Command, Fort Detrick, Maryland, to discuss the plan of equine vaccination. The vaccination campaign started the day after. Teams worked first in the Departments of Santa Ana, Ahuachapan, and Sonsonate. From there they went to Chalatenango, La Libertad, San Salvador and La Paz. Later vaccination was carried out in San Vicente, San Miguel, Usulután and Morazan. Allowing for a 10% loss in the 170,000 doses of vaccine provided from the US, approximately 150,000 animals were vaccinated.

Of the 170,000 doses of vaccine, 40,000 doses were paid for by the Government of El Salvador at a cost of \$4,000.

The U. S. Mission reported that the GOES conducted a well organized and efficient campaign, that the Federal Livestock staff, the veterinarians and other field personnel, as well as the people of El Salvador, fully cooperated in making it a success.

Honduras

Reports of the VEE outbreaks in El Salvador and Guatemala caused the GOH on August 13 to establish a surveillance program in areas adjacent to Guatemala and Salvador and to request vaccine from the USG in readiness for an expected vaccination program. Dr. McKinney of AMRIID was asked to come to Honduras to investigate. He made several trips to Honduras and on one of these brought with him 60,000 doses of the vaccine. First cases appeared in Honduras early in September but were not reported to the Agriculture authorities until ten days later. By late September, the disease was reported in epizootic proportions in one area. The vaccination campaign was initiated on October 2. It was operated on a seven days per week schedule until completed. Ten two-man teams were used during the campaign.

By October 2, 500 horses had died and the disease continued to spread. Another 25,000 doses of vaccine was requested. A new outbreak in November 28, 1969, in Morazan Department caused the GOH to request still another 25,000 doses, of which 10,000 were used immediately and 15,000 were kept in reserve. A total of 110,000 doses of vaccine went to Honduras. Allowing for 10% loss and the 15,000 kept in reserve, an estimated 85,000 animals were vaccinated from September through December.

Nicaragua

The Ministry of Agriculture and Livestock obtained help from the National Bank of Nicaragua in financing a national campaign against the disease. Initially, on September 27, 1969, the border area with Honduras was visited to determine whether there were cases of equine encephalitis in that region, and a serum test was carried out to determine resistance to the disease. An extensive vaccination program was planned and carried out with aid of USG specialists and in cooperation with USAID/Salvadorean Mission personnel who came to teach how to prepare diluent for the vaccine. Equines were vaccinated within a 30-kilometer belt from Corinto to

El Espino and from there to Rivas to Leon, thus covering the Pacific zone of the country. The GON cooperated with Dr. Tom Walton (MARU) who came from Panama to work in the campaign of collecting blood from horses and cows in the Pacific Zone. Although USAID reported 140,000 horses vaccinated, covering a 25,000 square kilometer area, the amount of vaccine sold to the Nicaraguan Government by the USG (AMRIID) amounted to only 120,000 doses. The amount paid by the Nicaragua Government for the vaccine was \$12,000.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

Guatemala

USAID/Guatemala initiative set relief operations in motion during the last week of June 1969. Specialists in equine encephalitis from the NIH Middle American Research Unit, National Communicable Disease Center, U. S. Army Medical Research and Development Command of Ft. Detrick, Maryland, Pan American Health Organization and Cornell Medical School were sent to Guatemala that week in response to requests for diagnostic and control direction. Upon obtaining positive diagnosis from these specialists, USAID on July 3 requested the first 50,000 doses of VEE vaccine from AMRIID. It was brought to Guatemala by Drs. Kissling and Lord of NCDC on July 8. On July 13 Dr. Robert W. McKinney, US Army, arrived in Guatemala. Thus began a 4-1/2 month control program in Guatemala requiring a total of 150,000 doses of vaccine. On August 6, AID/Washington was advised that the American Ambassador in Guatemala had declared a disaster on July 3 permitting use of up to \$25,000 of contingency funds for disaster relief to cover costs of U. S. assistance. Because of coordinated action in controlling this disease in four countries, this money was also used for payment of expenses of NCDC personnel in El Salvador, Nicaragua and Honduras and for most of the vaccine provided in Guatemala and El Salvador.

El Salvador

On July 4, USAID/El Salvador also indicated need for USG technical assistance. On July 10, Guatemala loaned 10,000 doses of vaccine to El Salvador. On July 13, 50,000 doses were airlifted from the US to El Salvador, who then replaced the 10,000 doses loaned by Guatemala. On July 19, another 40,000 doses were delivered. Eventually 170,000 doses of vaccine were used in El Salvador. Cost for 130,000 doses were assumed by AID and AMRIID, while 40,000 were paid for by the GOES. GOES officials met with AID personnel and Dr. McKinney on July 14, 1969, to plan the vaccination program, which was initiated the following day.

On July 31, a medical evaluation team, consisting of Dr. Alan R. Hinman and Dr. John McGowan of NCDC arrived in El Salvador to work with Doctors Rex Lord and Verne Newhouse of the Laboratory Division of NCDC, El Salvador and Guatemala USAID medical personnel; health officials of both countries, and Major Richard Spertzel, U. S. Army Medical Research Institute of Infectious Disease, in investigating the incidence of human cases of encephalitis. They reported on this as follows:

VEE virus was isolated from the blood of three persons with acute illness, including one person with encephalitis. Antibodies to VEE virus were found in humans from many areas in which equine disease was present, and antibody patterns suggested recent infections. Serologic testing indicated that the extent of human infection was quite variable (positivity rates in different areas varies from 0 to 87%) despite widespread horse involvement in most of the areas in which samples were drawn. The age distribution of persons with VEE antibodies suggested that the areas studied were not areas in which VEE virus was endemic. Correlation of clinical history with antibody level suggested a low incidence of inapparent infection. The limited amount of nervous system disease, compared to the significant incidence of equine mortality and human morbidity, is in marked contrast to reports of previous epidemics of this virus in South America.

Their report indicated a total of 27 human cases of frank encephalitis in the two countries with 16 deaths.

Honduras

On August 2, Dr. Walter Eskew, U. S. Department of Agriculture, visited Honduras and reported to USAID/Tegucigalpa on the epidemic in Guatemala and El Salvador. Due to military conditions in Honduras at this time, he was unable to get into the border areas to determine if there was also an outbreak in that area, but he recommended that USAID make plans to obtain vaccine to assist the Ministry of Natural Resources in carrying out a control campaign in the provinces of Cotopeque and Copan as soon as possible. On August 7, USAID reported that the GOH had requested vaccine and the services of Dr. Robert McKinney for evaluation of the need for a control campaign. Dr. McKinney made several visits to Honduras. On his first visit he reported there was no evidence of the disease. On his second visit during the week of August 20, he indicated through USAID/Honduras that the situation was still negative. The Government of Honduras, however, had begun and was maintaining surveillance in areas adjacent to Guatemala and El Salvador.

Cases were found in Honduras on September 5 but were not reported to Agriculture authorities until later in the month. The outbreak had reached epidemic proportions in one area by then and vaccine was requested immediately, as well as TDY of Dr. McKinney to supervise the initiation of the control campaign. On September 26, the American Ambassador declared a disaster and authorized up to \$25,000 to pay for vaccine from the Mission Allotment for Disaster Relief already established for the War Disaster. On September 29, Dr. McKinney arrived in Honduras bringing with him the first 60,000 doses of vaccine. Eventually, 110,000 doses were provided at a cost to disaster funds of \$11,000.

Nicaragua

A reported outbreak of VEE in Nicaragua resulted in requests for purchase of VEE vaccine by the Government of Nicaragua from the USG and the TDY of Dr. McKinney. He arrived in Managua on October 9 to work with Dr. W. Johnson, of the Middle American Research Unit, in planning a vaccination program for that country. They were assisted by USAID/Salvador Mission personnel, who came to Nicaragua to teach them how to prepare diluent for the vaccine. AMRIID provided 120,000 doses of the vaccine at a cost to the GON of \$12,000. Expenses of US technical assistance were included in the over-all costs out of the Guatemala disaster relief funding.



Vaccination Campaign - El Salvador. Left to right--Dr. Robert McKinney, Dr. Miguel Alberto Sandoval, Engineer Mario Paredes

Some of the expenses for USG technicians who helped in these four countries were absorbed by their own agencies. A complete breakdown is not available. Of the 545,000 doses of vaccine delivered from the US, the Governments of El Salvador and Nicaragua paid for 160,000 doses. USAID/Honduras paid for its 110,000 from its disaster relief allotment for the War Disaster. An agreement was reached between NCDC, AMRIID and AID/DRC and Guatemala desk officer that NCDC would be paid for actual travel expenses of its personnel, transportation, laboratory work and supplies (which amounted to \$6,734) and the balance of \$18,266 to make

up the authorized Guatemala \$25,000 funding level would go to AMRIID for vaccine. After deducting the 160,000 doses paid for by GOES and GON and the 110,000 paid for by USAID/Honduras, this would leave a balance of 275,000 doses at a cost of ten cents per dose to be accounted for, or \$27,500. Since AMRIID agreed to accept the \$18,266 balance for its share of reimbursement, this would mean \$9,234 contribution from that agency, not including expenses of its personnel.

<u>Recap of USG Assistance</u>	<u>AID Contingency (Disaster) Funds</u>	<u>AMRIID Contribution</u>
Guatemala funding		
to AMRIID	\$18,266	
to NCDC	6,734	
	<u>25,000</u>	
Honduras funding	11,000	
Vaccine not reimbursed by AID		\$9,234
	<u>\$36,000</u>	<u>\$9,234</u>

Total USG Assistance - \$45,234

Comments from USAIDs

USAMRIID personnel, specifically Major Richard Spertzel, for 60 days and Lt. Col. Robert McKinney on several TDY assignments were a real inspiration to GOG campaign chiefs. The same may be said for Drs. Alan Hinman and John McGowan, Jr., who worked closely with GOG Public Health Services in surveillance operations. Numerous other short term consultants contributed to the overall impact of this operation.

Disaster assistance provided a psychological assist to host-government at a time when emotions were running high for their leaders to take some positive action. U. S. assistance at this time was a plus for U. S. Foreign policy.

Results of the campaign have been gratifying to A.I.D./San Salvador from both the standpoint of the saving of a large percentage of the horse population of El Salvador and the amount of good will gained through this assistance.

Recommendation from USAID/Guatemala

Major USAID recommendation is that equine encephalitis vaccine be made available on the open market and that horse owners have unrestricted access to it through private sources. In this way, many local farmers would have vaccinated their own animals.

Comments of AID Disaster Relief Coordinator

The handling of part of the expenses of this epizootic through use of disaster relief funds was borderline. Public and animal health authorities

in the several countries knew that encephalitis was endemic. They did not know about the effectiveness of the US Army-developed VEE vaccine. The research interest in using and testing the vaccine was an important factor in the U. S. response, as well as the threat of the disease to the United States. The use of disaster relief funds was justified on these several points as well as the threat to human life.

AID/DRC urges USAIDs to consider the possibilities for future funding and control of this disease through regular programming procedures, and to encourage host governments to plan and fund in advance for future outbreaks of VEE.

The above recommendation from USAID/Guatemala indicates it is thinking along these lines. However, Missions should be aware that there is as yet no commercial production of VEE vaccine in the US. All shipments to date were made from research generated stocks produced by AMRIID, Fort Detrick, Maryland. Licensing commercial production is dependent on approval by the U. S. Department of Agriculture. Meanwhile, only a limited supply is available for testing and research purposes. The outstanding success of the Vee vaccine in Central America gives further proof of its effectiveness in controlling the disease.

Professionals in the field may consider the manufacture of vaccine by host countries at laboratories such as San Carlos University School of Veterinary Medicine, Guatemala, which receives ROCAP grant assistance. If this suggestion is accepted, seed vaccine could possibly be made available from USAMRIID. However, since quality of product would be outside US supervision and control, neither AID nor the U. S. Army would assume any sponsorship or responsibility for such production.

ASSISTANCE PROVIDED BY U. S. PRIVATE SOURCES

Cornell Medical School sent a surveillance team to study human involvement.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS

The Middle American Research Unit (MARU) offered its aid through the Pan American Health Organization. PAHO played an active role in the visit of the MARU team and was liaison between this group with the Government of Guatemala Agriculture, Public Health and the Veterinary Faculty.

PAHO reported that MARU had done an excellent job, made the first isolation and left equipment for future studies of the disease in Guatemala.

PANAMA

CHARACTERISTICS OF THE DISASTER

EVENT: Floods

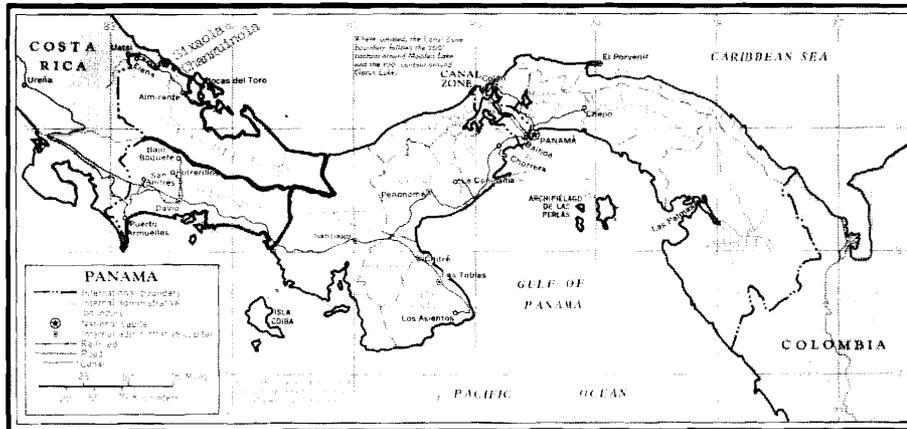
DATE-TIME: April 8-10, 1970

LOCATION: Chiriqui Province - Boquete and surrounding area
Atlantic Coast - Bocas del Toro and Changuinola area

DISASTER VICTIMS: Killed 48 Injured 500 Evacuated 3,500

DAMAGES: Estimated dollar property damage - \$15 million

DESCRIPTION OF THE DISASTER:



This major flood disaster began on April 8, 1970, following 3 days of heavy rains in two areas of Panama, the town of Boquete and surrounding areas in Chiriqui Province in the western highlands and the area of Bocas del Toro and Changuinola on the northwestern (Atlantic) coast of the Republic.

Boquete

Boquete lies at about 4,000 feet, surrounded by highlands reaching to 11,000 feet. Heavy and sustained rains swelled the mountain streams, already aggravated by extended run-off due to "scalping" large areas of timber. Much of the timber was never utilized and was left lying on the slopes. These timbers, washed into the streams by surface run-off, turned into one-half ton projectiles, which, when mixed with larger rocks and mud, doubled or trebled the mass of the rivers and streams. This force then removed



*Cerro Punta - farm house destroyed by rafted lumber.
There had been a bridge across the river at this point.*



Road/bridge destruction between Bambito and Cerro Punta

everything in its path. In places the stream bed was straightened out and altered by several hundred yards. Sections of the road were washed out, and bridges and culverts were either weakened or entirely destroyed. Long-time residents of the area stated the last flood of this scope was in the mid-30s, but their recollection was that it was less severe. Government estimates of damage were placed at \$8 million. This included private structures, schools and public buildings.

About 2,000 persons were provided relief in three relief centers in the Boquete area.

Bocas del Toro/Changuinola



Sixaola River Area

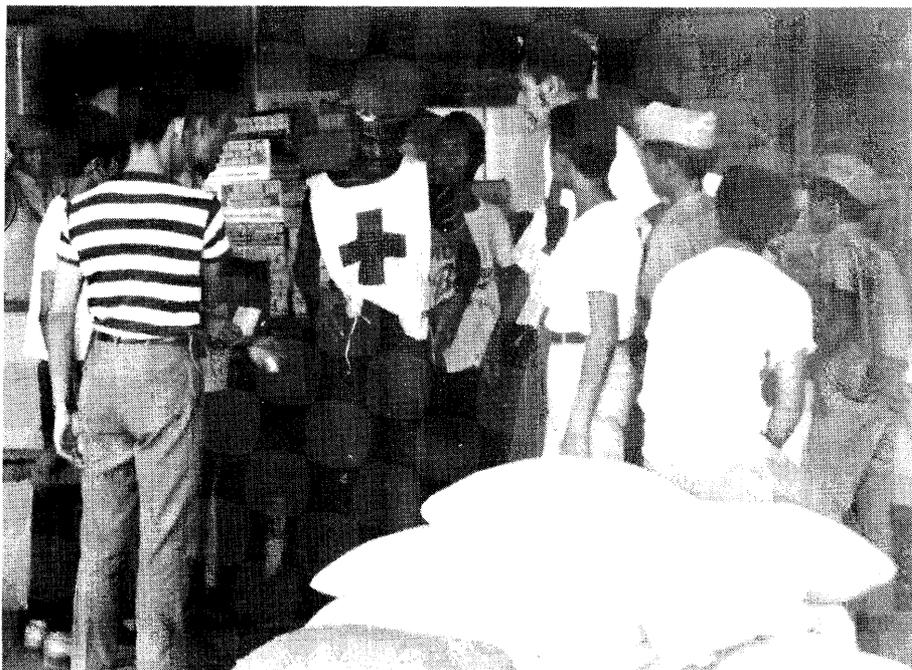
This coastal (and island) area in the extreme northwestern corner of Panama is the site of extensive banana plantations owned by United Fruit Company. This area was inundated due to the heavy and sustained rains in the highlands, which caused the rivers to overrun their banks into the practically flat, sea level coastal plain. Three large United Fruit farms were within the area and approximately 3,000 people were affected. Damage to the banana crops and United Fruit Company buildings was estimated to be at least several million dollars. No damage was done either to Bocas del Toro or Changuinola themselves but to the surrounding areas. Transportation was disrupted as a result of damage to sections of the United Fruit Company railroad, to the Changuinola bridge and

because of debris which clogged the Sixaola, Changuinola and Cricamola rivers. Complicating the situation was the contamination of fresh water supplies by the flood waters. In the Bocas/Changuinola area, the problem was more of inundation and the subsequent need for relocation and later renovation and rehabilitation, as opposed to the physically destructive forces of the mountain streams in the Chiriqui area.

ACTION TAKEN BY THE GOVERNMENT OF PANAMA AND LOCAL ORGANIZATIONS

The Government of Panama took immediate action by naming to both areas high government officials as coordinators for flood relief efforts. These were Minister of Commerce Manfredo in the Boquete area and Controller Moreno in the Bocas area. In addition, President Lakas, himself an engineer, personally coordinated on-site many physical aspects of the post-disaster rehabilitation.

The local disaster relief operations were implemented in the main by three bodies--the Government of Peru, the Panama Red Cross and the United Fruit Company. The Panamanian Red Cross coordinated the entire relief effort in both areas and assisted in the over-all effort of feeding and lodging the disaster victims and in the collection and distribution of clothing. Cooperating in the Red Cross effort were the Guardia Nacional and U. S. voluntary agencies (CARE and Catholic Relief Services).



Distribution of Red Cross & US A.I.D. P. L. 480 food

In the Bocas/Changuinola area, the major effort was undertaken by the United Fruit Company, since the majority of the area and people involved were associated with that company. They provided immediate assistance in terms of chartered flights of both planes and helicopters to fly in over 100,000 pounds

of food and medicines within the first two or three days. Their longer range program included the complete rehabilitation of the area, including repairs to company housing, railroads, bridges, etc.

Other government entities besides the Guardia Nacional which assisted were: Ministries of Agriculture and Education, Directorate General of Community Development and Comptroller General. The resources of the Government were mobilized promptly and effectively. Coordination between the private efforts of the United Fruit Company and the Government elements seemed effective, smooth and productive.

The President of Panama requested assistance from the U. S. Government, including helicopters for rescue and relief operations.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

On April 10, 1970, upon being informed by the President of Panama of the serious nature of the floods and of the need for assistance, the American Ambassador declared the floods of a magnitude to warrant U. S. help. He authorized the U. S. Southern Command Air Force to provide aircraft for rescue and relief operations in the disaster areas. Two US Air Force C-47s and two C-123s flew 22 hours and carried 42,000 pounds of disaster supplies from Panama City to Bocas del Toro. CH-3 helicopters evacuated 363 disaster victims and 70,500 pounds of cargo in the Bocas/ Changuinola area. Supplies provided from the AID/USSOUTHCOM disaster reserve consisted of 1,000 cotton blankets and 250 tents. However, the U. S. Mission reported that 145 tents, worth approximately \$11,000, were returned to the stockpile. In addition to tents and blankets, ten life rafts and two field stoves were supplied from U. S. Military stocks. One of the field stoves was returned. Total costs to AID, including reimbursement to the U. S. Military for supplies and airlift support were estimated at \$100,000. Subtracting the \$11,000 worth of supplies returned, total cost to AID was about.....\$ 89,000.

Also, USAID authorized CARE and Catholic Relief Services to provide 24,000 pounds of USG P. L. 480 nonfat dry milk, vegetable oil, rolled wheat, cornmeal, bulgur, rolled oats and wheat flour to meet urgent and immediate food needs of the disaster victims. Market value..\$ 2,630
\$ 91,630

The U. S. Mission reported that the most effective U. S. relief was the prompt diversion of P. L. 480 food and air evacuation assistance by the U. S. Air Force. More tents and blankets were sent than were required. As mentioned above 145 tents were returned to the Panama stockpile.

The Mission said their internal coordination on the determination of requirements was inadequate and indicated it considered that an occasional "fire-drill" would be useful to make sure that everyone in the US organization--USAID, MilGroup, Embassy and others--knew exactly what his responsibilities were.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

CARE and Catholic Relief Services made available the above mentioned P. L. 480 foods. These were transported by the U.S. and by the Panama Guardia Nacional and distributed by the Guardia and the Panama Red Cross.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

None reported.

PERU

CHARACTERISTICS OF THE DISASTER

EVENT: Earthquake

DATE-TIME: October 1, 1969 - 12:05 AM local time

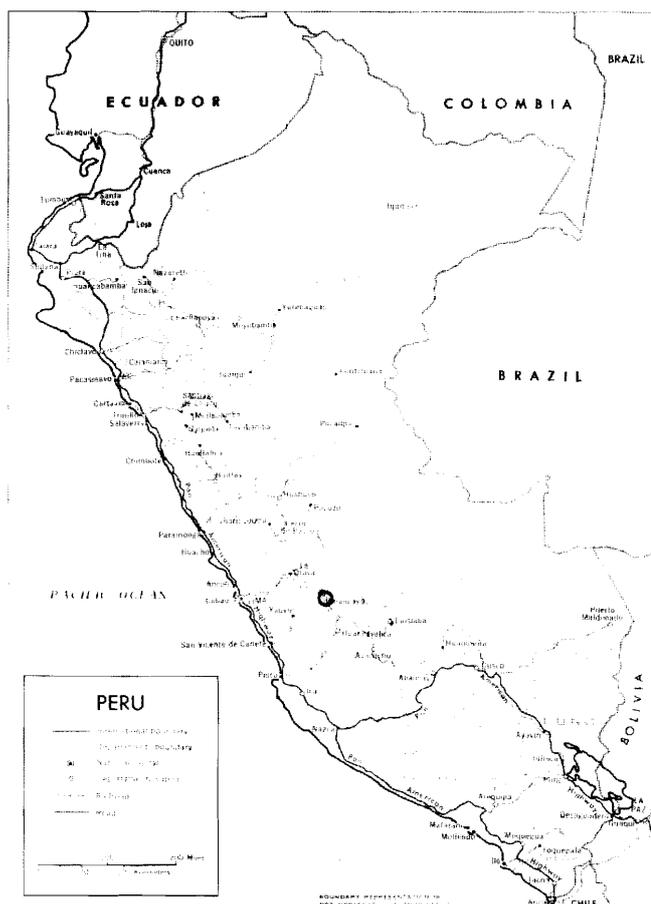
LOCATION: Huancayo/Pariahuanca Area

DISASTER VICTIMS:

<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>
150	216	3,000

DAMAGES: 1,800 homes destroyed

DESCRIPTION OF THE DISASTER:



On October 1, 1969, an earthquake of 6.2 magnitude on the Richter scale struck the Pariahuanca area, which is located close to Huancayo city. The epicenter was placed at 11.9 degrees south, and 75.1 degrees west. It had a focal depth of about 4 kilometers.

Press reports indicated 24 villages were affected in this rural, sparsely populated area. The villages of Lampa and Chilifruta were 100% destroyed and Comas 60%. Although the area is sparsely populated, the 150 deaths exceeded the 120 that resulted in the 1966 Lima/Callao earthquake of 1966 which had a magnitude of 7.5. The high death rate was due to the adobe construction of the buildings in the Pariahuanca area.

The Pariahuanca area is on the eastern side of the Andes Range

in central Peru. Tectonically, the eastern side of the Peruvian Andes shows a parallel faulting system, striking in the northwest direction, consisting mostly of inverse and over-thrust faults. In the past, many strong earthquakes have taken place around this area. In the present century on November 1, 1947, a magnitude 7.3 earthquake occurred which resulted in 233 deaths, many injuries and high damage. It was located 60 miles northwest of the epicenter of this earthquake.

The seismic activity in this area actually began July 24, 1969, with a 5.7 magnitude earthquake. During this quake, a visible fault movement of 0.4m vertical displacement was produced. More than 220 aftershocks were recorded at the Huancayo station. These were decreasing exponentially until this second main shock of October 1. The same fault was again activated with up to 1.60m of vertical displacement and around 0.7m horizontal. A very clear curve motion was produced. The visible inverse fault length was more than 10 miles. Many landslides and ground cracks were observed. The dam retaining Lake Asuntay broke dropping the lake level 2 meters. More than 1,375 aftershocks followed in the next 16 days.

As a result of the earthquake, road communications to Comas, Chilifruta and Lampa were blocked. The road to Comas was opened within two days; the road to Chilifruta took about 3 weeks and the Lampa road was not accessible until sometime after December. The rainy season started in mid-October and did considerable damage to road clearance and road reconstruction projects.

ACTION TAKEN BY THE GOVERNMENT OF PERU AND LOCAL ORGANIZATIONS:

The Junta de Asistencia Nacional (JAN) was given primary responsibility for coordinating relief activities in cooperation with the local Committee for Disasters of Huancayo. The local committee initiated distribution of shelter, food and medical supplies within the period of a couple of days; they organized medical posts at approximately 20 points in the valley for emergency treatment of injured, as well as preventive treatment and inoculations. They coordinated with the Air Force in the utilization of helicopters to deliver supplies and people to areas where road communications had been wiped out.

At the national level, JAN shipped tents, blankets and clothing to local authorities in Huancayo and got assistance from the Ministry of Health and Social Welfare.

Three days after the earthquake, food, clothing and medical supplies had been distributed to local points within the valley. Medical posts were in operation. Social assistants were in the field gathering information on persons suffering damage and evaluating the interim needs of the people. The major need was for shelter and some food items and assistance for these was requested from the U. S. Government.

The U. S. Mission reported that the work by both the local and national disaster organizations was impressive. Some problems did occur, however.

The extremely quick reaction of the committee in Huancayo resulted in the first and largest surge of foods and clothing being brought to Comas and environs when the damage was more extreme in the isolated Chilifruta, Lampa, Pariahunca triangle. Reallocations had to be made. Also a portion of the Department of Huancavelica was affected and all of the work at the local level was being done by the committee in the Department of Junin. JAN had to step in directly to establish some relief for the Department of Huancavelica. A third problem was the lack of coordination between the voluntary agencies, JAN and the US AID Mission, which resulted in duplication of assistance in some areas and lack of aid in others. (See comment on this under Assistance Provided by the U. S. Government.)

The following incomplete breakdown of donations from Peruvian private and government organizations was provided:

Local banks for rebuilding housing and schools	\$21,000	
From local groups such as Club Huancayo, the Guardia Civil, Rotary and Lions' Clubs and Peruvian Red Cross, Chambers of Commerce, special musical, sports events and collections.		5,000
		<u>\$26,000</u>

Also, the Ministry of Education presented a school construction budget of \$7 million, of which an unspecified portion was for reconstruction of damaged schools in the Mansaro Valley.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

JAN requested USAID to provide shelter and emergency supplies. With the approval of AID/W, 200 tents were sent from the United States, and a cash donation was made to JAN for relief operations. USAID also contributed 7 Cinsa-Ram and 15 Ellison blockmaking machines.

Expenditures from AID contingency fund:		
Cash donation to JAN	\$10,000	
Cost of 200 tents and trucking charge (airlift was provided by Braniff free of charge)	17,458	
Cost of block making machines	<u>5,466</u>	\$32,924

In addition, the following P. L. 480 Food for Peace commodities were diverted from Catholic Relief Services, Church World Service and Seventh-Day Adventist Welfare Service stocks on hand in Peru: 32,725 pounds of wheat; 43,898 pounds of bulgur; 10,216 pounds of vegetable oil; 13,530 pounds of nonfat dry milk and 17,605 pounds of flour. Estimated market value

	<u>8,310</u>
	\$41,234

The U. S. Mission reported U. S. aid was well received and that quick delivery of the 200 tents and the cash donation to JAN were effectively publicized in the Peruvian press, television and radio. Also the fact

that USAID used two U. S. direct hire employees to survey some of the most damaged areas that were inaccessible by anything but helicopter received favorable comment in the newspapers.

Improvements Made for Future Disasters as Result of Problems Encountered

One of the problems was the lack of close coordination among the voluntary agencies, JAN and USAID. As a result there was duplication of aid in some areas and lack of assistance in others. The voluntary agencies and USAID met to discuss this. They concluded that a permanent committee should be established by Catholic Relief Services, Church World Service and Seventh-Day Adventist Service to coordinate with the USAID Disaster Relief Officer, who would act as a liaison with the Government of Peru agencies involved in future disasters. It was decided also that current information on resources would be kept on file with the Disaster Relief Officer.

Rehabilitation

The U. S. Mission reported that this was the first disaster in which USAID attempted to initiate a longer term rehabilitation for earthquakes in Peru. In reviewing the damage and deaths with those of 1966, it was noted that many of the deaths had been attributed to the poor adobe construction of the houses. USAID decided to contribute seven Cinva-Ram and fifteen Ellson block making machines in a cooperative effort with the Government of Peru and U. S. voluntary agencies to design and build structures which would be more earthquake resistant. See below under Voluntary Agencies for additional information.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND OTHER US ASSISTANCE:

<u>Seventh-Day Adventist Welfare Service</u> - 50 tents; 500 blankets		\$ 4,295
<u>Catholic Relief Services</u> - 35 bales of clothing, est. value		\$ 3,500
<u>Church World Service</u> - 4,900 pounds of clothing	\$4,900	
cash donation *	<u>2,300</u>	\$ 7,200
		<u>\$14,995</u>

*The new method of coordination was followed in the rehabilitation program of housing in Pomamanta, a town in the Comas area. CRS, CWS and SAWS jointly undertook the reconstruction of 70-80 houses as a pilot project. Cash for building materials was to be provided by CRS and CWS and food for voluntary workers by SAWS. It was indicated the Government of Peru would watch this effort closely since the construction is simpler and cost was expected to be one-half of their own proposed design. USAID-donated block making machines were provided.

<u>Braniff Airlines</u> - provided free airlift of USG-donated tents and SAWS tents and blankets. Estimated value of airlift		5,500
		<u>\$20,495</u>

ASSISTANCE PROVIDED BY OTHER NATIONS: World Council of Churches (\$500); OXFAM-British (\$4,650); Diplomatic Corps/Peru (\$1,800);		
Total - Other Nations		\$ 6,950

PERU

CHARACTERISTICS OF THE DISASTER

EVENT:	Floods			
DATE-TIME:	January 14-15 and February/March 1970			
LOCATION:	Chaclacayo and Lima Areas - January Department of Loreto - February/March			
DISASTER VICTIMS:	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>	<u>Needing Assistance</u>
(Jan.)	3	50	5,000	31,000
(Feb/Mar)	-	-	-	100,000
	Houses			
DAMAGES:	<u>Destroyed/Damaged</u>		<u>Estimated Dollar Damage</u>	
(Jan)	1,000	2,500	\$4,000,000 (Crops, Homes, Industry)	
(Feb/Mar)	-	-	\$1,200,000 (Crops, Livestock)	

DESCRIPTION OF THE DISASTER:

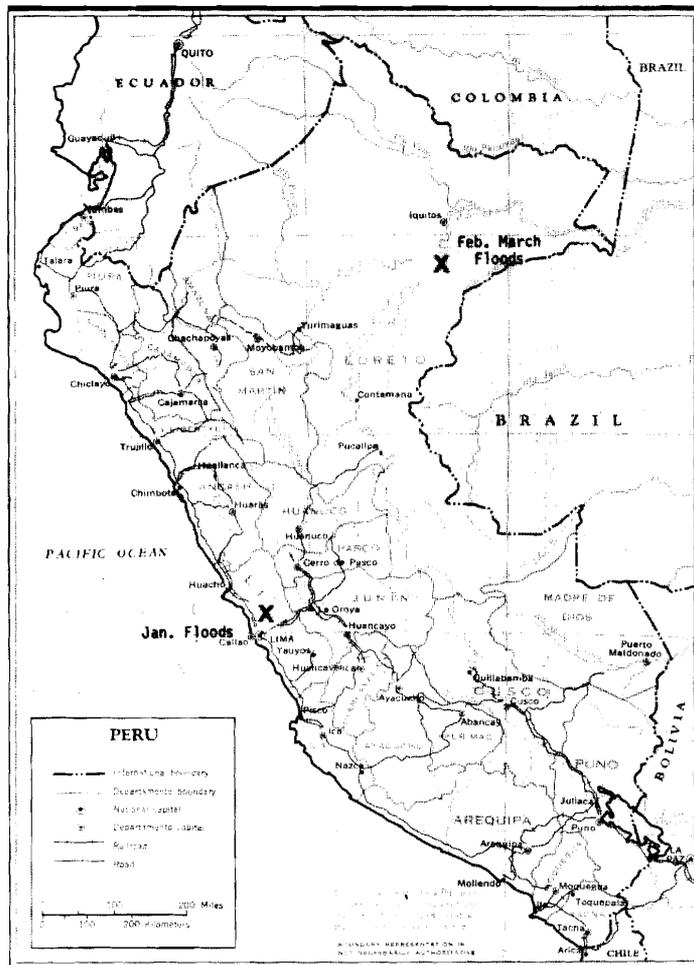
January Floods

Since it seldom rains in Lima, the .63 inches of rain that fell there on January 14-15 was a veritable disaster. It was the heaviest rainfall in 45 years.

The construction of housing (adobe, straw, cardboard and stucco) with no outlets for water discharge, and the location of much of the "barriada" housing in dry bed streams or on the immediate banks of the rivers, caused unforeseen destruction. The destroyed houses were directly in the line of progress of the rivers when they overflowed their banks. Some bridges and roads were destroyed and some of the population in these areas were marooned. The major damage was along the Rima and Chillon Rivers. Hardest hit was the Chaclacayo area. All of Lima and the surrounding area suffered rain damage--from the poorer sections to the luxurious mansions and from private apartment buildings to government offices. The new airport terminal, roads, telephone and electric installations were also affected.

February/March Floods

Heavy and prolonged rains in the Sierra during February and March caused a high rise in the level of the Amazon, Marañon and Ucayali rivers with



resultant extensive flooding in the Department of Loreto. The flooded area was approximately 840 miles in length and covered some 2,400 square miles of land. The rise in the Amazon river, estimated at 3 meters above average level, caused serious consequences for some 154,000 small farmers who were totally dependent on agricultural production. Damage to pastureland, livestock, fibers, Manila hemp, and other crops was estimated at 53.2 million soles (about \$1.2 million). Planting of crops had to be delayed for about 30 days.

ACTION TAKEN BY THE GOVERNMENT OF PERU AND INTERNATIONAL ORGANIZATIONS:

January Floods

Immediate action was taken by the Government of Peru to alleviate the suffering and losses of flood victims. Some of the organizations that were involved in the

relief operations were: Junta de Asistencia Nacional (JAN), Municipal Fire Departments, the Guardia Civil, the Air Force and Army, Ministry of Public Health, Ministry of Transportation and Communications, Cooperation Popular of the Ministry of Housing, the Peruvian Red Cross and Pueblos Jovenes del Peru (PUJOP), a private organization.

Local collection funds were established and donations eventually amounted to \$100,000. Caravans were organized to bring in food, clothing, bedding and other useful articles. Persons marooned by the flood were moved to higher ground by the fire departments and the military and given emergency shelter and food by JAN. Shelter provided by JAN consisted of unused buildings in the flood areas and reuse of many of the tents donated by the U. S. Government for the October 1969 earthquake victims. PUJOP was instrumental in organizing and assisting in relief operations.

River defenses were installed by five different Peruvian ministries. The Government of Peru expropriated about 27 hectares of land for resettlement of some of the displaced inhabitants of the "pueblos jovenes".

Brick making machines purchased with USAID funds by JAN were furnished to the Mayor of Chaclacayo on March 13 so that work could be started on the construction of a "new town".

The U. S. Mission summarized the work of the Government of Peru and local organizations in this disaster as effective, quick and well coordinated.

February/March Floods

The Government of Peru declared five provinces--Alto Amazonas, Loreto, Maynas, Requena and Ucayali--in the Department of Loreto as emergency zones and requested assistance from the United States Government in providing food under Title II of Public Law 480 for an estimated 100,000 disaster victims during the period prior to harvesting of crops, estimated to be four months. The Government indicated the food would be distributed free to persons needy as a result of the disaster or as partial payment-in-kind of wages to flood victims employed on work projects in the affected area. By Decree Law, the Government made 6.2 million soles (about \$142,000) available to cover costs involved in the receipt, handling and distribution of this food. The feeding program was placed under the general direction of the Ministry of Agriculture with food distribution carried out by CARITAS/Catholic Relief Services.

Health authorities in Iquitos took preventive measures to avoid major health hazards.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

January Floods

When the full effect of the flood was realized on January 16, the Mission made arrangements to survey the damage. Two teams were established to appraise the need for help--one went to some of the "pueblos jovenes" around Lima and one went to the Chaclacayo area where the damage was heaviest. The Disaster Relief Officer, the Executive Secretary of the Council for Voluntary Agencies and the Executive Assistant of the Special Projects Office inspected the townships of Nana and Moron in Chaclacayo. They found the river a raging torrent at this point and the surrounding areas inundated. Upon return, contact was made with JAN and indications were that relief operations were well under control of the Peruvian organizations.

The Peace Corps volunteers immediately jumped in to assist the people in the "pueblos jovenes".

It was determined by the American Ambassador that U. S. Government contributions could best be in the form of cash donations to four of the Peruvian relief organizations. The USG was the only government which officially responded to the needs of the flood victims. Total cash contributions from AID contingency funds, some of which was used for brick making machines, was.....\$6,000

These cash contributions received favorable publicity but more importantly established a firm bridgehead to further rehabilitation programs with JAN and Pueblos Jovenes del Peru (PUJOP). The U. S. Mission proceeded with plans to assist PUJOP to establish a revolving loan fund for self-help projects within the "pueblos jovenes". This assistance was to be funded through the USAID Community Development Funds at a cost not expected to exceed.....\$ 25,000

The Seventh Day Adventist Welfare Service diverted the following USG P. L. 480 Food for Peace commodities to the disaster victims: 25 tons of flour, 8 tons non-fat dry milk, 5 tons of soyoil, with an estimated market value of..... 10,170

Total USG assistance for January Floods.....\$ 41,170

Comment by USAID: We feel that our assistance, which was comparatively low in the amount of funds contributed, was at precisely the level to indicate our interest in helping the Peruvians in this highly publicized emergency and that we established better relationships for future cooperation in some of our regular programs.

February/March Floods

USAID recommended and AID/W approved the following grants of U. S. Government P. L. 480 Food for Peace commodities, to be distributed through Catholic Relief Services: 800 metric tons cornmeal; 600 bulgur; 600 rolled oats; 360 vegetable oil; 180 nonfat dry milk. Market value of this 2,540 metric tons was estimated at \$398,660, plus ocean freight charges of \$250,000, for a total value of.....\$648,660

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND OTHER U. S. HELP:

January Floods

Seventh-Day Adventist Welfare Service diverted above Food for Peace commodities from its regular program; Church World Service contributed 42 bales of clothing valued at \$4,630; the Embassy Commissary donated 285 cases of milk and milk products valued at \$1,692; and Catholic Relief Services arranged for distribution of the above Embassy Commissary donation. Total dollar value.....\$ 6,322

February/March Floods

CRS/CARITAS carried out food distribution program.

ASSISTANCE PROVIDED BY OTHER NATIONS - None reported

INDEX FOR MAY 31, 1970 PERU EARTHQUAKE CASE STUDY

	<u>Pages</u>
STATISTICAL DATA.....	179
SUMMARY OF VALUE WORLDWIDE ASSISTANCE	181
DESCRIPTION OF THE DISASTER	182
Description of Housing in the Earthquake Area	197
ACTION TAKEN BY THE GOVERNMENT OF PERU AND LOCAL ORGANIZATIONS....	198
Rehabilitation and Reconstruction	199
Airlift Relief Operations	200
Emergency Medical Resources	202
ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT	206
American Embassy in Peru	206
AID Disaster Relief Coordination/Washington	207
Latin American State/AID Bureaus and Desks	209
Food for Peace Division, AID.....	209
USSOUTHCOM (Including Disaster Assistance and Survey Team).....	210
USS "Guam".....	213
Summary of US Military Air Operations in Peru	215
Department of Health, Education and Welfare	216
Peace Corps.....	217
U. S. Geological Survey	218
NASA	219
White House Steering Group and Peru Earthquake Voluntary Assistance Group	219
President and Mrs. Richard M. Nixon and Secretary of State William P. Rogers	220
Recap of USG Assistance from June 1 to September, 1970.....	222
Appraisal of US Assistance with regard to Peruvian Relations....	222
Appreciation and Honors for US Assistance.....	223
ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND THE PRIVATE SECTOR	224
ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS	252
CHRONOLOGY OF SOME OF THE EMERGENCY ACTIONS BY AND THROUGH THE GOVERNMENT OF PERU	260

PERU

CHARACTERISTICS OF THE DISASTER

EVENT: Earthquake - Magnitude 7.7 Richter Scale
 Epicenter 9.2° South, 78.8° West
 Duration 45 seconds
 Depth 45-66 kilometers

DATE-TIME: May 31, 1970 at 3:23 PM, Peru Time

LOCATION: Area affected consisted of 83,558 kilometers in the Departments of Ancash, La Libertad, Lima and Huanco, especially in the following regions:
 Coastal area from Chancay to Trujillo
 Highland areas of the western slopes of the Andes
 Callejon de Huaylas (Valley of the Rio Santa)

DISASTER VICTIMS:

<u>Killed</u>	<u>Injured</u>	<u>Hospitalized</u>	<u>Homeless</u>	<u>Food Programs For</u>
66,794	143,331	4,657	500,000	600,000

<u>Department or State</u>	<u>Estimated 1970 Population</u>	<u>Percent Affected</u>	<u>Estimated Number Affected</u>
Ancash	740,037	100%	740,037
La Libertad	819,040	100%	819,040
Lima	2,843,471	50%	1,421,735
Huanco	460,486	20%	92,097
	<u>4,863,034</u>		<u>3,072,909</u>

* Population figures provided by the Presidential Emergency Committee of Peru.

DAMAGES: There were 152 principal cities and towns affected and over 1500 villages. Approximately 80% of houses and other buildings in the earthquake area were destroyed. Estimated total number of buildings destroyed was placed at 186,000.

	<u>Sierra Region</u>	<u>Coastal Areas</u>
Houses Destroyed	<u>47,200</u>	<u>53,200</u>
	(100,400)	



A Section of the Callejon de Huaylas

DAMAGES: (Cont'd)	Sierra Region	Coastal Areas
Houses Damaged	<u>28,000</u>	<u>31,800</u>
	(59,800)	

Total Houses Destroyed and Damaged - 160,200

Many industries, public buildings, roads, railroads, bridges, schools, electrical, water, sanitary and communications facilities were also destroyed or damaged.

Estimated dollar damage by the Government of Peru was placed at \$530,000,000.

ECONOMIC IMPACT: While great damage occurred in the Departments of Ancash and La Libertad, it was not expected that this would disrupt the over-all economy of Peru, since the area affected represented but a small percentage of the total industrial and agricultural production.

SUMMARY OF VALUE OF WORLDWIDE ASSISTANCE FOR THE EARTHQUAKE VICTIMS:

Worldwide response to the needs of the disaster victims consisted of airlift of food, medicine, emergency shelters, blankets and other priority items and surface shipment of roofing, tools, construction equipment and clothing; provision of helicopters and other aircraft for delivery of supplies to isolated towns and villages, evacuation and care of the injured; establishment of field hospitals and distribution centers; various projects to restore communications, roads, irrigation, housing, schools, etc. Following is a brief summary of the value of this assistance. Detailed information on these and other elements of this disaster are contained in various sections of this report (see index).

U. S. Government:		
Emergency Relief.....	\$3,150,000	
Rehabilitation Projects.....	\$7,400,000	
27,851 tons of P. L. 480 Food for Peace.....	<u>\$5,891,000</u>	\$16,441,000
U. S. Voluntary Agencies		<u>\$10,355,446</u>
		\$26,796,446
68 Other Nations; International Organizations; Protestant and Catholic Organizations other than those in US.....		<u>\$17,471,990</u>
		\$44,268,436

This report reflects assistance given through September 1970 and planned rehabilitation projects extending beyond that time on which information was available. The United States Government, U. S. voluntary agencies, other countries, Inter-American Development Bank and the World Bank will continue assistance in the reconstruction program as plans are developed by the Government of Peru.

DESCRIPTION OF THE DISASTER:

The mighty earthquake which struck Peru on Sunday afternoon, May 31, 1970, was incredible in scope and the worst in terms of death and destruction not only in the history of Peru but ever to strike the Western Hemisphere. The most deadly in the Hemisphere prior to this was the earthquake in Quito, Ecuador, on February 4, 1797, which killed 41,000.

Between the period of May 31 and June 8, there were 37 aftershocks recorded ranging in magnitude from 4 to 6-1/4 on the Richter scale. There was no evidence of tectonic warping along the coast and no report of a tsunami

1797	<i>Ecuador</i>	41,000
1868	<i>Peru/Ecuador</i>	25,000
1875	<i>Venezuela/Colombia</i>	16,000
1939	<i>Chile</i>	30,000
1949	<i>Ecuador</i>	6,000
1960	<i>Chile</i>	5,700
1970	<i>Peru</i>	66,794

(seismic sea wave). Many faults exist in the Santa Valley, but there was no evidence that any moved during the earthquake, probably because of its depth. Fissuring related to incipient landsliding or differential compaction of unconsolidated sediments was extensive in the Santa Valley.

Area Affected

The region affected, situated largely in the Department of Ancash, but also in the Departments of La Libertad, Lima and to a limited degree in the Department of Huanco, has the mountain chain of the Andes running through it with a large number of residents. Two valleys, the Santa and the Marañon, run parallel to the Pacific Coast. The Santa Valley is formed between the Cordillera Blanca and Cordillera Negra, and through it runs the Rio Santa which originates in the lagoon of the Aguash glacier. The Callejon de Huaylas, valley of the Santa River, runs from south to north over a distance of about 125 miles before the river cuts sharply down to the coast at Chimbote. Although the maps show that the Callejon de Huaylas (Huaylas Corridor) includes the coastal region from Las Zorras in the south to Trujillo in the north, and the valley of the Rio Santa south of Huallanca, it is usually referred to as the Santa Valley between Huaraz and Huallanca.

The northern part of the Callejon de Huaylas is a deep, steep-walled canyon, about 15 kilometers long, at the bottom of which is a narrow vertical-walled slot, as much as several hundred meters deep, called the Canon del Pato, in which the hydro-electric plant is located. There are many ice covered peaks in the Cordillera Blanca of over 18,000 feet. All are towered over by Nevados Huascaran, which reaches an altitude of 22,190 feet on the south

PERU DESTRUCTIVE EARTHQUAKES/AVALANCHES

<u>Earthquakes</u>	<u>Deaths</u>
1582 Arequipa	30
1619 Trujillo	350
1664 Ica	400
1687 Lima	600
1746 Lima and Callao	*8,141
1821 Comana	162
1868 Peru/Ecuador	25,000
1940 Lima/Callao/Chorrillos	249
1943 Yanacocha	200
1946 Northern Part/Quiches	1,400
1947 Lima/Satipo	233
1950 Cusco	83
1953 Tumbes	7
1958 Arequipa	28
1960 Arequipa	57
1966 Lima/Huacho/Barranca	125
1968 Moyobamba	46
1969 Huancaayo/Pariahuanca	150
* Earthquake and tsunami	
<u>Avalanches</u>	
1941 Huaraz	5,000
1962 Ranrahirca	4,000

side and 21,860 feet on the north. The north peak of Huascaran is one of the most unstable ice covered areas in the Cordillera Blanca.

The Cordillera Negra, in contrast, has a more subdued topography, and its relatively broad, undulating crest is generally about 14,000 feet in altitude. It lacks glaciers and snowfields. Valleys on the flanks are V-shaped and are deeply incised in their lower parts. Volcanic rocks on steep slopes of the Cordillera are weathered and fractured and consequently subject to sliding during the rainy seasons or in response to seismic movement.

The damage area was approximately 600 kilometers north to south. Coastal areas, the Sierra mountain slopes and mountain valleys were all seriously affected. There was heavy damage in the southern



Landslide on highway at point just north of Caraz



Mountain town

Indian, of over 740,000 before the earthquake, of whom perhaps 60-70% lived in the Callejon and its branches. Most of the people live in small villages in the valley and scattered through the mountains. Their houses are almost all of adobe bricks. Most are subsistence farmers, raising corn, wheat, cattle, pigs, chickens and goats on fields that are sometimes at a 45° angle to the horizontal. Of note is the fact that in 1967 less than 7% of the rural population and less than 30% of the urban population had running water in their houses, and only 22.3% of the urban population had sewage disposal systems. Only 21% of the population had permanent health services and this figure includes those persons served by sanitarians.

The Effects

Reports from some of the areas affected indicated minor tremors had occurred

portions of the Department of La Libertad. Serious damage occurred in the Department of Lima and to a lesser degree in the Department of Huanuco.

While destruction was great in several of the coastal cities and also on the mountain slopes with many people killed in these areas, it was in the Callejon de Huaylas valley that the earthquake took its greatest toll in lives.

The Department of Ancash is estimated to have had a population, mostly



Coastal city of Chimbote

before the main shock. Other eyewitnesses described the earthquake as beginning without prior warning with a gentle swaying motion of the type that is experienced in Lima several times each year. This gentle swaying lasted for a few seconds and was followed by hard shaking variously estimated as lasting from 30 to 90 seconds but most reports put it at about 45 seconds. The eyewitnesses said the tremors had a pronounced side-to-side motion that made it difficult or impossible to walk or run, but did not throw people to the ground. In most places, the adobe structures reportedly began to collapse after only about 15 seconds of hard shaking.

People ran out of buildings and homes in panic. In the rural areas this tended to save their lives. In some of the urban areas, such as Huaraz, this action only brought them death. As the streets in many of the cities are generally very narrow with buildings on both sides, those people that fled out of doors on feeling the first tremor were crushed under the falling walls. Those who remained inside were crushed under the heavy tile roofs as they collapsed. In contrast, the town of Caraz with a population of about 5,000, although sustaining severe damage in some sections of the city, had a relatively low death toll. This was attributed to its wider streets. Lives were reportedly saved due to the occurrence of the earthquake on Sunday afternoon when many people were attending sports events or enjoying outdoor activities. Compounding the effects of the earthquake itself were the many landslides which it triggered and which wiped whole towns and villages off the map, as well as blocked roads from the Sierra to the coast. All communications were cut with Peru's northern interior. Immediately following the earthquake, the Peruvian National Disaster Office said: *There is absolutely no way to estimate the number of dead and injured. The only thing we can tell you is that we have some areas of this country severely affected.*



How many towns and villages looked after the earthquake

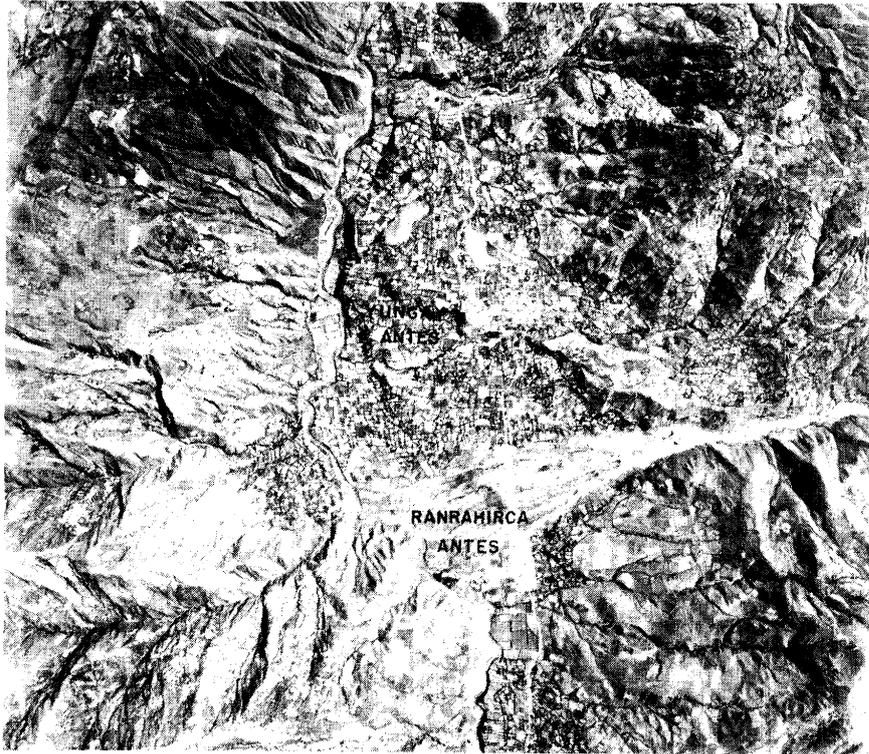
By late evening on the 31st it was known that Trujillo, Chimbote, Huaraz and Huacho had been seriously hit. Reports had begun to filter in by ham radio--among the earliest were pleas for medicine and doctors from Recuay and Huaraz. The gruesome fate of the people of Yungay and the extensiveness of destruction throughout the Callejon de Huaylas did not emerge until scattered reports came in from pilots who flew over the area but could not see the ground because of the dense cloud, and from ham radio operators who called in the following day. Even then it was unbelievable.

The first inkling of how terrible this catastrophe might turn out to be came in a news bulletin the morning of June 1 which estimated that at least 5,000 people had been killed in Huaraz. This was followed in the afternoon by an even more startling report. The American Embassy was advised by an official of the Government of Peru that they had received a



At Chimbote Airfield immediately after the earthquake when no medical facilities were available. Patients wait evacuation to Lima.

report estimating 30,000 people had lost their lives in the villages of Ranrahirca, Yungay, Caraz and Huallanca. The Government of Peru did not consider this official. The official death toll at that time was being given as 1,000. This position by the Government of Peru was a valid one since in most major earthquakes the early casualty figures are seldom factual--sometimes understated but more often blown up. The Government declined at this time to raise the official casualty figure because of the



Aerial photo of Yungay and Ranrahirca before the avalanche

scarcity of information and inability to confirm the reports due to destruction and damage to all communication facilities. It feared too there would be panic among the people if it accepted immediately the unconfirmed reports. Nevertheless, the Government of Peru did recognize that a disaster of major proportions had occurred and was prompt in setting up rescue and relief operations. By June 1, it had rescuers and relief teams in Chimbote and other areas which could be reached, and had already sought outside assistance from the United States and third countries. It was not until several days after the main shock that the full extent of the catastrophe was known. Some of the effects of the earthquake will be described below by areas and cities; other information will be summarized at the end of this section with a table on percent of destruction. This table, however, is not presented as a complete list of towns and villages affected.

Yungay, Ranrahirca, Mancos Area

Pilots who normally took people to Yungay, a favorite base for mountaineers, flew over the area and reported that the town was under a cloud of dust and appeared to be totally obliterated, and that the nearby village of Ranrahirca also seemed to be wiped out. The tragedy of these two communities was confirmed on June 1, but even then the total extent was not



*Aerial photo showing
Yungay and Ramrahirca
buried by the mudslide*

*Four palms in
this photo
mark the
location of the
main square in
Yungay.*

*Note cemetery
on side of
mountain where
2,500 survivors
were found.*



known. Sunday was market day in Yungay and an estimated 20,000 residents plus several thousand visitors lost their lives either when the earthquake struck, or when the avalanche and mud flow covered it a short while later. There were only about 2,500 survivors. They were discovered by the Peruvian Air Force huddled together in the mountainside cemetery above the city. A number of children who happened to be attending a circus on the outskirts of the town at the time of the avalanche was saved.

In Ranrahirca an estimated 1,800 of the 1,850 residents were killed. In Mancos 70% of the buildings were destroyed and 3,100 out of the 5,000 population died or were listed as missing.

The avalanche which followed the earthquake was caused when a gigantic chunk fell away from the north face of Mount Huascarán into Lake Yanganuco, spilling its waters over into the canyons leading to the Huaylas valley below. The resultant onrush of water, mud, stones and ice reached Yungay and Ranrahirca 5 to 10 minutes later, burying them both. All that remained visible in Yungay were the tops of four tall palm trees that once marked the central "Plaza de Armas" and the cemetery on the mountain side. The main part of this debris avalanche appeared to have involved a slab of ice and rock about 800 meters wide (approximately 2,600 feet)--in volume more than 25 million cubic meters. As the avalanche moved down the side of Huascarán and the Llanganuco Valley, it became a highly fluid mudflow owing to melting of part of the ice and to water and water saturated sediments picked up in the Llanganuco Valley.

Within a few minutes after the first tremors of the earthquake were felt, this enormous mass of rock, ice and mud had rushed at speeds ranging from 130 to 260 miles per hour from Huascarán to the Rio Santa, ten miles away. The avalanche disrupted the Rio Santa temporarily so that it flowed upstream for a distance of over a mile. The mud flow also splashed up onto the lower slopes of the Cordillera Negra and flowed downstream. Yungay was obliterated by a tongue of mud and rock 20 to 30 feet thick that swept over a ridge about 300 to 400 feet high. This ridge was expected to protect Yungay from avalanches. The main part of the debris avalanche buried most of Ranrahirca as well as parts or all of several smaller villages along the fertile valleys of the Rio Llanganuco and Rio Santa.

Near the middle part of the avalanche's course a velocity of about 240 miles per hour was indicated by the trajectories of thousands of boulders, many weighing three tons or more, that in some places were hurled more than 700 meters (about 2,300 feet) across the Llanganuco Valley. This deadly rain of rocks killed and injured many people and was extremely destructive to buildings, livestock and vegetation. The unusually high velocity and large volume of the avalanche allowed it to override large topographic irregularities including the ridge between the Llanganuco Valley and Yungay. Its momentum at the Rio Santa, 10 miles from its source, carried it across the river and as much as 50 meters (164 feet) vertically and several hundred meters horizontally up the opposite bank, where it destroyed part of a small village. The velocity was due



Mass of rocks and earth on highway at a point between Ranrahirca and Yungay which was deposited by the avalanche.

*22,000 ft.
Mt. Huascaran from which the avalanche broke loose is in the background*

primarily to combination of steep slopes in the source area and to the great vertical relief along its path to the Rio Santa. The thickness of the debris deposit, as measured at a number of places along its margins and in incised stream channels, ranged from a few centimeters to 10 meters (about 33 feet) with an average of about 10 feet. The thickness was about 16 feet at the site of the plaza in Yungay. This was estimated by comparing the heights of the four palm trees that extend above the debris surface with the over-all height of palm trees from the same place that had been uprooted by the debris flow. The largest block of rock was a 14,000 ton giant deposited near Ranrahirca. One at Yungay measured about 7,000 tons. One survivor said that the mud was too soft to walk on until about eight days after the avalanche. Four weeks after the avalanche, this surface was generally as hard as adobe.

Downstream from Yungay

The mud slide continued down the Rio Santa causing great damage to structures, transportation routes and to communications networks. It inundated the Caraz airport and extensive tracts of agricultural lands near Caraz. It covered the highway between Caraz and the Canon del Pato and destroyed the bridge across the Rio Santa at Choquechaca. While the hydroelectric plant at the mouth of the Canon del Pato near Huallanca was not damaged because there was time to shut the safety gates at the tunnel intakes to prevent entrance of debris into the turbines, the diversion dam was

destroyed and the access road was largely buried or swept away. Also the railroad bridge that provided access to the power plant at the lower end of the Canon del Pato was destroyed. Low-lying parts of the town of Huallanca and the camp of the hydroelectric company were damaged and five persons in one of the homes were swept away. The Rio Santa has a channel that averages about 300 feet wide at Huallanca. According to residents in Huallanca, the river dried up for about an hour after the quake and prior to the arrival of the debris flow. Upon arrival of the debris-laden waters, it rose 20 meters above its prequake level and reportedly ran full for 2-4 hours before beginning to subside. After the main part of the debris flow passed, dozens of corpses, vehicles and manmade materials were deposited near Huallanca. Air reconnaissance of the Santa Valley between Huallanca and the coast to Chimbote indicate large segments of the railroad line were covered with debris or washed away. The electric power transmission lines to Chimbote were severely damaged cutting off power to the steel and fish meal plants in the Chimbote area.

Huaraz

This city of 65,000 near the southern, higher end of the valley is the provincial capital. The snowcaps above it have sent avalanches in the past, but this time Huaraz was destroyed solely by the shaking ground.



Huaraz

Huaraz was known in the valley for its pretentiousness--many of the houses had two or three stories. Most of the deaths in Huaraz were in the older section of the city where collapse of the two and three-story buildings killed both occupants and the many who fled into the narrow streets for safety, only to have the adobe buildings collapse upon them. Total dead may never be known but on July 2 the Government of Peru indicated there were 800 known dead and 16,000 missing, presumed dead. Estimates of destruction ranged from 80 to 90%. One area of some 100



Homeless victim in Huaraz

reconstruction of the city at its present site; that the main preoccupation in reconstruction should be the widening of streets and limiting the height of unreinforced adobe buildings to one story.

Chimbote

Chimbote, which until a few years ago had been a sleepy fishing village, had become the heart of Peru's fishmeal industry, attracting thousands of Indians to work in the factories. At the time of the quake it had a population of about 200,000. Parts of the city were totally flattened while over-all estimated destruction ranged from 65% to 80%. Because the earthquake occurred on a Sunday afternoon when school was not in session and businesses were closed, the number of deaths in the coastal area was low considering the regional population and extent of destruction--probably about 1,000 of which about 700 were in Chimbote.

Throughout the coastal region, there was major damage or total destruction to adobe buildings which constitute a large proportion of the residences. New brick houses that did not have reinforced concrete pillars were seriously damaged or destroyed. One entire subdivision of Chimbote had this type of housing. Well constructed buildings with reinforced concrete pillars and connecting stringers with brick wall panels generally had

square blocks was left a mass of rubble and broken adobe walls. Streets were filled with rubble to depths of as much as ten feet.

The USGS team which surveyed the disaster area said this about Huaraz:

In striking contrast to this adobe disaster, most of the few buildings in Huaraz that were built of brick with reinforced concrete frames, including one of four stories and one of five stories, were only slightly to moderately damaged. On the other hand, a four-story school building of reinforced concrete and brick with inadequate shear walls did collapse.

The Government of Peru is considering relocating the old central part of Huaraz, or turning it into a park, to prevent future destruction of life and property.

The USGS report indicated no geologic conditions precluded



Chimbote after the earthquake

little or no damage, even though many were surrounded by demolished adobe structures. The few wood frame buildings in the area were virtually unaffected by the earthquake.

With regard to movement of Chimbote to another site, the USGS report stated:

Chimbote can be rebuilt at the same site, but certain residential areas should probably be abandoned. One of these areas is that in the eastern part of the city, which flooded because of soil compaction during the earthquake. This area would be subject to additional compaction and flooding during future earthquakes. However, Chimbote is virtually at sea level and is in potential danger of destruction by tsunamis originating at almost any place in the Pacific region. Although it would be unreasonable to consider relocation of the city because of this danger (Callao is in an equally or even more dangerous position for tsunami destruction), it is not unreasonable to consider reconstructing the destroyed part of the city on higher ground.

Following is an eyewitness account of the earthquake in Chimbote while it was happening, as described in the Hatch Tower magazine:

The drive from Trujillo to Chimbote had been pleasant but, as Lima was yet another five-hour drive away, we decided to stop and freshen up a bit before continuing our journey. We pulled up in front of the Hotel Chimu, overlooking the placid Chimbote bay. The engine had hardly died when everything was gripped in the throes of a violent upheaval. The automobile lurched frantically from side to side and up and down. The hotel, an imposing three story building, leaped and twisted about. Windowpanes shattered to the ground. I backed the car into the middle of the parking area and there we rode it out. The once calm bay was seized with giant choppy waves, and the beach began to sink and fall away toward the ocean. Large fissures opened in the street. The front wheels of one car dropped into a wide crack that had opened up suddenly beneath them. A glance toward the mid-town section revealed a rising cloud of gray dust that reached a height of one hundred feet blanketing the entire city. All about us the city lay in ruins. Frantic cries of pain and grief pierced the air. In panic people ran to and fro searching the debris for loved ones, calling names, listening for voices. The quake lasted but forty-five seconds--a short span, indeed, in any circumstance but an earthquake. In those fleeting, prolonged, interminable forty-five seconds, there were drastic changes in the lives of hundreds of thousands of persons.



In Chimbote

Casma

Casma was almost completely destroyed. Few walls of heights of more than a meter or two were still standing. The town had only a few reinforced concrete buildings, most of which showed little or no damage. However, a large one-story school building of reinforced concrete and cement block, apparently of good construction, collapsed. Casma with a population of several thousand was spared in the number of people killed having recorded only 70 deaths. The extensive destruction of the adobe buildings was partly due to the



Huarmey - Note stopped clock indicating time of quake

extremely poor quality of the adobe bricks and mortar used in their construction.

A USGS report indicated Casma was suitable for reconstruction at the present site which is not subject to flooding, debris flows or landslides.

Caraz

Caraz was estimated to be 70-80 percent destroyed, principally by the earthquake. A small section was hit by the flow of the avalanche. Rural housing suffered as much as the urban center and in the Province of Caraz 266 were reported dead with 4,230 others missing.

From a geological foundation standpoint, Caraz is similar to Huaraz and is suitable for reconstruction, according to USGS. However, it potentially is in one of the most hazardous locations of any of the larger towns or cities in the Santa Valley. Laguna Paron near the head of Quebrada Paron, the largest lake in the Cordillera Blanca, is partly dammed by a glacier and partly by a moraine. The lake drainage is entirely by subsurface flow through the morainal dam. Furthermore, this lake and the Quebrada are between Nevados Huascaran on the south and Nevados Huandoy on the north. Extensive glaciers and snowfields overhang the valley on both mountains, and ice avalanches or rockfalls into the lake could cause it to rupture and to form a debris flow even larger than that which destroyed Yungay.

Relocation of Caraz a short distance up or down the Santa Valley would place it in an even more hazardous position than its present one. A possible solution to the problem of Caraz is the partial draining of Laguna Paron. The Corporacion Peruana del Santa currently has plans to effect this drainage by driving a 1.2 kilometer tunnel in rock, starting downstream from the lake and intersecting the lake at a depth of 40 meters below the present surface. Drainage to this level would largely eliminate the danger of rupture of the lake and consequently the danger of destruction by a debris flow. A second alternative would be to relocate the city on the west bank of the Rio Santa.

Department of La Libertad

Damage in this department's southern portion was quite heavy. Virtu was completely destroyed as were its neighboring villages and haciendas. Moche and Trujillo had damage of up to 30% of their buildings. The same is true for some places in the Chicama valley such as Santiago de Cao, Santiago de Chuco and surrounding villages in the highlands of this department.

Department of Lima

The northern part of this department was damaged in varying degrees ranging up to 75 percent of the buildings in some places.

Highland Areas

In the highland areas of the western slope of the Andes, locally referred to as "vertientes", structural damage was between 75-100% in every village.

Department of Ancash

Following is a list of provinces and towns in the Department of Ancash with estimate of percent of damage. It does not, however, contain the names of all towns and villages suffering damages.

<u>Santa Province</u>	<u>Pallasca Province</u>	<u>Huaylas Province</u>
Colcap 50%	Ancos 100%	Caraz 70-80%
Chimbote 65%-80%	Cabana 15%	Chanclancayo 80%
Jimbe 70%		Huino 95%
Lacramarca 10%	<u>Corongo Province</u>	Huallanca 90%
Macate 100%	Cusca 65%	Huata 80%
Moro 100%	Corongo 85%	Huaylas 85%
Santa 75%	La Pampa 95%	Mueho 75%
Santa Ana 100%	Pacatqui 90%	Pamparomas 80%
	Santa Rosa 80%	Pueblo Libre 75%
<u>Casma Province</u>	Tarica 50%	Sucre 75%
Casma 75%-95%	Yaupan 90%	
Huarmey 80%		<u>Sihuas Province</u>
Yautan 80%	<u>Pomabamba Province</u>	Sihuas 30%
	Pomabamba 50%	

Yungay Province	
Cajapampa	100%
Mancos	70%
Matacoto	70%
Quillo	70%
Ranrahirca	100%
Yungay	100%

Carhuaz Province	
Copa Chico	80%
Carhuaz	50%
Sta. Rosa	95%
Yungar	40%

Aija Province	
Aija	100%
Cochapeti	80%
Coris	100%
Huacillan	100%
Huayan	100%
La Merced	70%
Succha	90%

Bolognesi Province	
Aco	100%
Cajacay	90%
Carhuamarca	100%
Copa	95%
Congos	90%
Chaquistanbo	40%
Chiquian	40%
Huayllacayan	40%
Llipa	80%
Ocros	90%
Rajan	90%
Sntgo.Chilcas	50%
Ticlllos	90%

Recuay Province	
Recuay	90%
Catac	80%
Huacyon	10%
Marca	60%
Pampas Chico	80%
Pararin	60%
Racopampa	70%
Ticapampa	70%

Huaraz Province	
Cajamarquilla	90%
Cochabamba	90%
Colcabamba	100%
Huanchay	90%
Huaraz	80-90%
Pampas	90%
Pariacoto	85%
Pira	90%
Tarica	50%

Description of Housing in the Earthquake Areas

The vast majority of buildings, both public and private, in the Callejon de Huaylas is constructed of sun-dried mud bricks called adobes. These are made in various sizes according to local traditions and preferences of the men who make them. The usual "temper" used in their fabrication is fresh wheat or barley straw. In general, the adobe brick is about five to seven inches thick, twelve to sixteen inches wide, and from 10 inches up to two feet long. The buildings themselves are normally of one or two stories high with tile roofs supported by rough hewn eucalyptus beams. Where possible, homeowners apply a plaster covering to the front of the buildings and parts exposed to the street view. Wooden lintels support the adobes over doors and windows.

Inside the house, the principal rooms may again be coated with plaster over a lathing of carrizo (small bamboo plants which are locally grown). Traditionally, the colca, or storage area for grain and other household items is on the second floor. Most houses have some sort of patio and corral fenced in by adobe walls. Many have large, domed adobe ovens located in the patio area. The corral is used to contain the animals of the household, especially sheep, pigs, and chickens and it is also employed as a "bathroom" since there are very few modern toilet facilities in the region.

The structural defects or weaknesses of this traditional building style were repeatedly observed. As a result of the earthquake, most houses were

split at the corners and the walls pushed outward by the weight of the tile roofs and colca. In many cases, two story buildings lost the upper portion, the first floor portions being salvagable after some repairs.

ACTION TAKEN BY THE GOVERNMENT OF PERU AND LOCAL ORGANIZATIONS

Following the disaster, the President of Peru designated an Emergency Relief Committee under the presidency of the Minister of Health, General Rolando Caro. All members were military and the committee included several cabinet officers. The Committee was situated in the Presidential Palace and operated much as would a military command headquarters with division heads designated to make decisions in their own fields.

From the first day following the disaster, information flowed into this headquarters and was posted on walls, charts and maps.

General Augusto Freyre was designated as coordinator of all relief operations with headquarters at Anta in the Callejon de Huaylas--the area which suffered the heaviest losses. Other high ranking military officers were designated area commanders under General Freyre, one being in Chimbote and others at Recuay, Huaraz and Caraz.

The assessment of damage as well as the distribution of assistance was a Peruvian military operation with close cooperation from foreign and Peruvian organizations both military and civilian.

The Government of Peru had many and serious problems to overcome in bringing aid to the earthquake victims. Institutions in Peru, governmental and private, were not structured to deal with emergencies of such magnitude. This resulted in some delays and inequitable distribution of relief goods but realistic efforts were made to overcome these deficiencies and changes in relief operations were made as necessary. Considering the difficulties with which the Government of Peru was faced, the over-all effort of the Peruvian authorities and people was admirable.

The Peruvian Government immediately set aside the equivalent of \$17.5 million for relief and rehabilitation and a few days later earmarked 2 percent of the national budget for the same purpose. Peruvian private donations of clothing, medicines and goods were sent to the Junta de Asistencia Nacional in large quantities, and private sources also donated the equivalent of \$5.6 million in cash.

Food and medicines reached the people, shelters were erected and evacuations were carried out with dispatch. Roads were cleared, airstrips built, water supplies laid on, tent villages erected and civil order strictly enforced. Military discipline in the field was excellent, decisions were rapidly carried out and there were flexibility and good judgment.

The Peruvian military delegated medical attention to civilian organizations and volunteers, food distribution to the U. S. voluntary agencies and the Peru Red Cross, and evacuation almost entirely to US, Brazilian, Canadian

French, and Peruvian helicopter and fixed wing commands under General Freyre's general direction, but following their own procedures and appointed area tasks.

Medical attention was an outstanding success. Field hospitals and first aid at the scenes of damage were conducted with great skill and order. Injured patients were registered and tags were attached to their bodies giving essential details of their condition.

The last section of this report carries a chronology of some of the emergency relief actions by and through the Government of Peru and of improvements made from day to day from May 31 to July 14.

Rehabilitation and Reconstruction

The Inter-American Development Bank reconstruction loan of \$35 million was approved. According to news reports it was for 25-30 years with a 7-year grace period at 3% interest and repayment to be made in Peruvian soles. Still under review was the request for \$150 million from the World Bank.

The Government of Peru indicated it would put up to \$17.5 million in conjunction with the \$35 million loan from the IDB. The U. S. Government allocated \$7.4 million and the Organization of American States \$250,000 for this phase of operations. Other nations and voluntary agencies also announced contributions for rehabilitation and reconstruction projects. (See the U. S. Voluntary Agencies and Other Nations sections of this report.) The United Nations Development Program indicated it would contribute \$2 million for a series of technical assistance projects in rehabilitation.

On June 27, the Government of Peru Housing Ministry announced plans to construct 2,400 provisional barracks-type shelters in disaster areas designed to accommodate large numbers of people, beginning with Huaraz and Caraz. Plans were developed also to provide corrugated metal or aluminum roofing to families in rural areas who would themselves erect the walls of their temporary homes. It was estimated that the temporary shelter program for the earthquake victims in the rainy areas would cost about \$6 million. By this time great concern was being expressed over getting the homeless inhabitants of the Callejon de Huaylas under temporary cover before the onslaught of the cold and rainy season expected to begin sometime in September. Therefore, major emphasis was placed on obtaining corrugated metal or aluminum roofing to be distributed to these families.

The latter part of July available information indicated that 16,029 temporary housing units had been constructed in this area by the Government of Peru, US Agency for International Development, West German Red Cross, Chile, New Zealand, Russia and from private donations in Peru. In addition, roofing had been provided or was enroute for another 27,064 units being funded by the Government of Peru, International Development Bank, Organization of American States and US voluntary agencies and American Red Cross.

It had been estimated that 68,000 families needed shelter in this area, which left 25,000 units still to be provided. Procurement for these additional units was undertaken by the U. S. Government, Church World Service, Catholic Relief Services, CARE and the West German Government. Extensive efforts were made by US manufacturers, shipping lines and the US Agency for International Development staffs to expedite procurement and delivery to Peru during September and October.

The Peruvian Government's comprehensive plans for longer term reconstruction had not been announced as of September 1. The mechanism had been established and personnel assigned to work on it but there was indication that this might not be ready before the end of 1970. Several nations and voluntary agencies indicated their input into reconstruction and development hinged on what the Government of Peru planned to do and they would be delayed in their reconstruction projects until this plan was forthcoming.

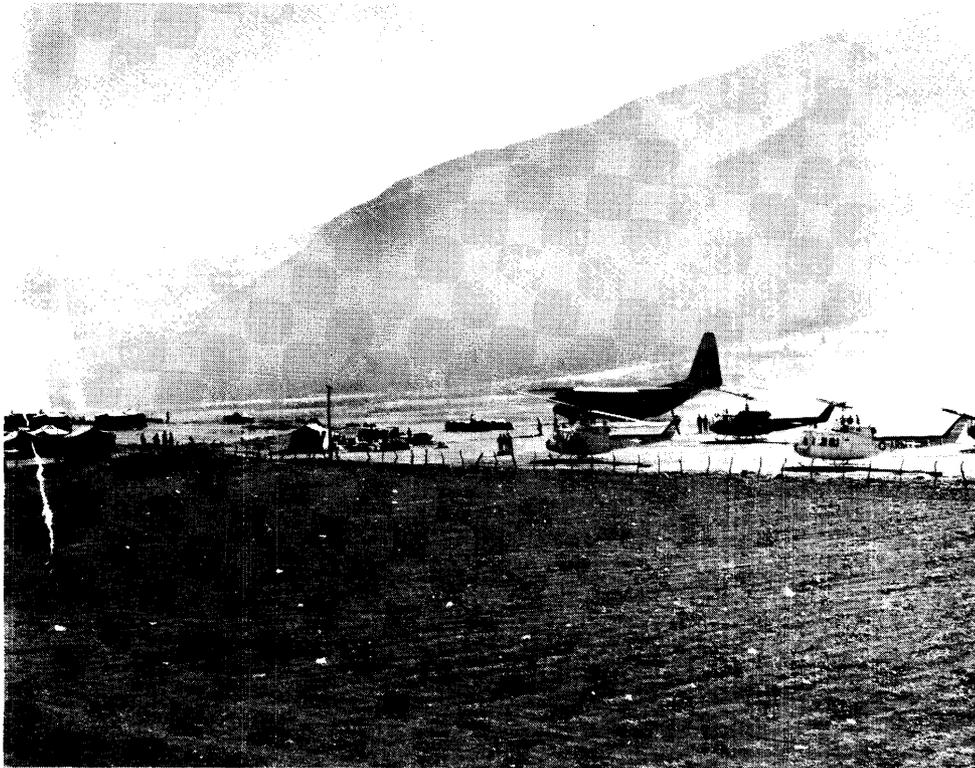
By order of the Peruvian Government, the people were not granted approval to begin reconstruction of permanent buildings. They were permitted to do the clean-up work and to erect temporary living or business quarters. Temporary meant the simple shelter and not the laying of adobe bricks, except in rural areas. It appeared that the authorities planned to allow only earthquake resistant type construction in the urban rebuilding program, even though much of the population was pressing for immediate construction. The Government of Peru also indicated it was considering moving portions or all of certain towns to other locations.

Airlift Relief Operations

Except for coastal areas, all other regions of the disaster area had to rely on air delivery of supplies during the emergency period. This was due to destroyed and damaged roads, the many landslides and the remoteness of many of the mountain villages. It was one of the most important and the most dramatic of the relief activities.

The basic plan was to ferry the bulk of the thousands of tons of supplies, equipment and personnel from Lima either to Chimbote on the coast or to Anta in the Callejon de Huaylas, by fixed-wing aircraft. Traffic was extremely heavy both ways on the Chimbote-Anta run.

Anta was the only airfield in the mountain region and for several weeks after the quake, this field could handle only helicopters and Caribou C-46, 47 type planes. From these two points helicopters fanned out to the isolated villages. They had to operate dangerously at all times. D-model Hueys were found not to have sufficient power for the high altitudes and were replaced by H-model Hueys. Five helicopters crashed.



*Hercules
plane and
helicopters
at Anta
airfield*

It was not until June 22 that C-130 and other large cargo aircraft could land at the Anta airstrip. Air drops were made by C-130 and C-123 cargo planes as directed by the helicopters. Sometimes the air drops ended up a gooey mess of condensed milk, rice, tea, chocolate, sweater, matches, tuna, dehydrated carrot and blanket. This led to recommendations that in future disasters where air drops had to be utilized only certain types of items be included in the packages, or that parachutes be used.

Over 1500 villages were reached by the helicopters which brought in medical teams, evacuated the seriously injured and delivered over one million pounds of supplies.

Aircraft Provided by	Transport or Cargo Type	Helicopters	<i>The earthquake Rescue and Relief operation caused loss of life of 3 members of the Peruvian Air Force, a Peruvian doctor and 4 members of the Argentine Air Force, and injuries to two US crew members. Aircraft that crashed were: 2 Hueys, 1 Chinook (US) 1 Argentine Fokker TC-75 1 Peruvian Helicopter</i>
Peru	15	8	
United States	8	26	
France	4	3	
Canada	5		
Brazil	1	2	
Russia		3	
Argentina	2		
	35	42	



*Medical
evacuation
by Brazilian
helicopter*

Emergency Medical Resources

When disasters cause personal injuries, there is a period immediately afterwards when facts are not available on the number injured, the seriousness of the injuries or the facilities available to care for them. World news media are so fast in reporting first eyewitness or ham radio guesstimates that world opinion is formed before accurate assessments can be made. Those experienced in providing disaster relief are sensitive to the immediate needs of the people, but they are aware of the problems that arise when actions are based on the early, often magnified reports. Based on these first reports, well-intentioned groups and individuals, not generally involved in disaster relief, may initiate action to send drugs and medical staffs that cause more confusion than solution.

This situation occurred following the May 31 earthquake and avalanche in Peru. Because of the almost total destruction of communication and transport facilities, there was a lack of hard information on the number of injured immediately following the disaster. This resulted in pleas for medical assistance in worldwide news media, medical organizations and voluntary agencies bulletins, without an understanding of the actual ability of the Peruvian government and medical personnel to meet the needs. These circumstances caused a general over-reaction in the mobilization of emergency medical resources from around the world.

Various groups in the United States offered to send medical teams; hundreds

of calls and letters came in to the AID Disaster Relief Coordinator's office from individual doctors, nurses and other medical personnel. Many insisted their services were needed and that they should be sent to Peru under AID auspices. As many facts as could be obtained by the American Embassy and US AID Mission in Peru were transmitted to all who were interested. Most volunteers graciously accepted the explanation given by the AID/DRC staff. Other individuals and groups called directly to the Government of Peru. Those with particular medical skills were accepted if they could meet all of their own costs for international travel and could wait for in-country transport, if and when made available by the Government of Peru. Those who could not be utilized were thanked by AID/DRC staff and advised not to go to the disaster areas in Peru during the emergency period.

The Government of Peru Ministry of Health, the American Embassy, USAID, League of Red Cross Societies and others tried to discourage the continued mobilization of medical assistance, but could not convince the world community. As early as June 5 the American Ambassador in Lima cabled: *In conversations with the Ministry of Health and consultation with the Embassy this morning, I find that Peru is at this time saturated with physicians that have arrived in Lima. Presently they cannot be utilized because they can't be mobilized to the areas where they are needed*", but the possibility of need for 8 to 10 nurses was indicated.

Other pleas not to send medical personnel were received as follows:

June 7 - *Needless to say we and, of course, Peruvians eternally grateful for tremendous response in the U. S. to this incredible disaster. Nevertheless there are priorities and severe limitations on what can be used at this time. One form of assistance which cannot be effectively used at this time is additional doctors. There are over 100 Peruvian doctors awaiting assignments and 112 Argentines arrived today and the Ministry of Health has no place for them.*

June 9 - Embassy cable stating the Government of Peru could not utilize additional medical personnel until transport was vastly improved, but volunteers might be needed later. On the same date the Government of Peru did call forward the 25-man American Alpine Club team, including 12 doctors. All members of this team were skilled mountain climbers, could reach remote areas and provide their own logistical support.

June 10- *No nurses should come to Peru from US until requested by this Mission. **** Many Peruvian medical personnel have been waiting to help Peruvians but have been unable to do so because of lack of patients and logistics. Will advise when arrival of transport permits evacuating patients from area, as quoted from Embassy cable.*

June 10- Second cable received confirming nurses not needed.

- June 11 - Embassy again replied that the need for outside nurses was not evident; Lima hospitals were reporting empty beds.
- June 12 - Another message confirming that the Ministry of Health had stated again that no more nurses were needed in Peru; there was nothing for them to do and arrival in Peru would only be irritating to Peruvian authorities.
- June 12 - The Government of Peru gave approval for the Project Hope team which had been waiting in Colombia for several days for a call forward. It arrived in Lima on June 12 and the Health Ministry provided backup support. Project Hope team worked in the Aija area. Their work was much appreciated by the Government of Peru, but the long delay in calling the team forward as a result of lack of transport and the less than expected number of patients caused Dr. William Walsh, President of People to People Foundation (Project Hope) to make the following evaluation for future guidance.....A voluntary agency can make a serious contribution in a follow-up period, but can contribute to confusion in the emergency phase if it goes into an area without full logistic support. Its function is to aid our Government's efforts in an emergency period, and a disaster relief center, if established, could be the source of guidance for voluntary agencies in that period.
- June 13 - The League of Red Cross Societies stated in one of its bulletins: *Peru Minister of Health considers Peru has enough medical and paramedical personnel. Despatch of personnel from abroad is neither required nor recommended.* Also on the same day an Embassy cable stated that there were many current instances of health personnel in Peru having no work to do; that volunteers in excess of needs were detracting from ability to conduct needed operations; that helicopters were only effective means of transport and priority needs for helicopters were evacuation of wounded to the gathering points where medical staffs were already available; that the Ministry of Health would request help as necessary; that casualty flow was a trickle, not a river.

All these cables and messages stating, confirming and reconfirming that no more medical personnel were needed were prompted by the continued demands from private groups and individuals that more medical teams and drugs should be sent from the United States.

The United States Government foreign disaster relief response is prompt and specific. The American Embassy country team under the Ambassador has responsibility and authority to assess the needs and to take action commensurate with those needs and the acceptability of our assistance by the country concerned. Medical and health care are specific, precise actions requiring professional assessment and guidance. The Ambassadors in countries where disasters strike and AID/DRC in Washington work closely together to provide the kinds of drugs, medical equipment and personnel

required. Through advance planning and preparedness, doctors, epidemiologists, sanitary engineers and hospital administrators are on standby to go to the scene from AID, U. S. Public Health, U. S. Military, American Medical Association, voluntary agencies and others. In everything affecting medical and health care, all concerned are urged to act only on specific requests, cleared in advance. In future disasters, every effort should be taken by USG information services to impress on news media the confusion and time wasted resulting from impassioned appeals for help before an official assessment of casualties and needs can be made. This does not mean that all help should be delayed until this is done. Immediate aid is always given from resources within the country and the American Ambassador may act without coming to Washington headquarters. As soon as the country team can make an estimate of the situation, it is immediately communicated to all concerned.

Obtaining an assessment of disaster needs from outside the country is extremely difficult. It may involve preliminary and subsequent stages. Each assessment takes into account the number of people injured and homeless and the property damage, the assistance already provided, the capability of the country to meet its own disaster needs and aid offered and accepted from third countries. But, if US assistance is to meet the needs it must be done professionally and skillfully and not be a mass response that adds to the confusion and overloads local facilities and transportation.



Carson Crocker, AID Field Relief Coordinator (far left), Peace Corps Director Joseph Blatchford, Col. William Sibert and members of the DAST discuss relief requirements

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

The American Ambassador, Embassy Staff, US Military Group/Peru, US AID Mission, Peace Corps and U. S. Information Service personnel were prompt in determining that the earthquake was a disaster of considerable magnitude requiring outside assistance. The Agency for International Development and Department of Defense Disaster Relief Coordinators, State Department and AID desks in Washington, were notified. Funding levels to obtain and deliver supplies, services and technicians were established. The AID Disaster Relief Coordinator (AID/DRC) contacted the US military command in Panama (USSOUTHCOM) on June 1 to authorize immediate withdrawal of AID/SOUTHCOM disaster relief supplies and reimbursement by AID to the U. S. Military for assistance given by them, including helicopters, cargo aircraft, military equipment and supplies, travel and per diem of personnel. The United States and Chile were the first countries to provide assistance.

American Embassy in Peru

On June 1, the day after the earthquake, the American Ambassador exercised his disaster relief authority and announced a donation of one million soles (\$24,000) for the disaster victims. On June 2, the check was presented to Mrs. Consuelo de Velasco, wife of the President of Peru and head of the Junta de Asistencia Nacional (JAN).

The Ambassador then requested from AID and the US Military helicopter support for the Government of Peru, a civic action team, including medical specialists, immediate delivery of disaster supplies to include parachutes, tents, cots and sleeping bags. All of these were dispatched immediately from Panama and arrived on June 2.

The U. S. Military Group/Peru (COMUSMILFOR) was charged with the responsibility of coordinating and controlling the Military Assistance Group (MAAG) and other US military relief activities which continued to grow in size and complexity over the next several weeks. The small MAAG staff could not continue its relief work without help. The first USSOUTHCOM augmentation team arrived on June 7 and other supplements of Army, Navy and Air Force personnel, or rotations, followed. U. S. Military strength in Peru rose to 182 on June 16.

Ambassador and Mrs. Belcher flew over the disaster area the afternoon of June 2 with the Disaster Assistance and Survey Team (DAST), which had arrived that day with three C-130 aircraft loads of supplies and equipment, including two small helicopters.

On June 5, the Embassy established an Emergency Command Post manned by State/AID/USIS & Military officers. Hours of 7:00 a.m. to 10:00 p.m. were soon expanded to 24 hours under three shifts. By June 12, the staff command post was tiring noticeably from long hours and some illnesses occurred. The Ambassador determined that the midnight shift should be discontinued since cable traffic could be handled during that period by the Embassy's regular duty officer and MAAG radio at the airport.



Lima - AID relief supplies being transferred from C-130 cargo-master to Peruvian Air Force truck

AID Disaster Relief Coordination/Washington

AID/DRC was notified of the earthquake on May 31 by National Earthquake Center of ESSA and was in immediate contact with the Embassy and USSOUTHCOM/Panama. AID/DRC authorized immediate withdrawal of AID disaster supplies at Panama and reimbursement for US military disaster relief activities. Funding levels for emergency relief were set up and eventually totaled \$3,150,000.

Daily phone communication was established with the Embassy in Peru to afford quick relay of increasing and/or changing needs. From June 2 to the latter part of June continuous shipments of USG supplies were made from the United States and Panama.

AID/DRC sent a Disaster Operations Officer from his staff, George Beauchamp, to assist the Embassy with disaster coordination in Lima. He arrived there June 2. Subsequently, AID/DRC sent two consultants, Carson O. Crocker and Glenn Haydon, to help in disaster operations in the field. They arrived on June 7. Mr. Crocker became the USG field coordinator for the Embassy and USAID and worked closely with George J. Greco, Acting USAID Mission Director. Mr. Haydon was made coordinator for the Medical Coordination Team. Mr. Beauchamp returned to the US on June 29 and Mr. Haydon on June 21. The detail of Mr. Crocker for emergency relief ended on July 31, but his stay in Peru was extended for three months to aid in the rehabilitation phase of the earthquake relief program.

With the exhaustion of supplies in the Panama Reserve in the first few days after the disaster, it was necessary to meet the continuing demand for tents, blankets, cots, medicines and other priority items, including two packaged disaster hospitals, by purchase and delivery from the US. AID/DRC personnel, assisted by other AID offices such as Resources Transportation Division, Administrative Services Contracts and Procurement Division and others, purchased and/or arranged for air delivery of these urgently needed items.

All of the emergency disaster relief requests made by the Government of Peru to the American Embassy were reviewed by the Country Team and requests sent to AID/DRC in Washington. Immediate decisions were made on the action to be initiated through civilian channels or U. S. military resources.

By the end of June, 44 planeloads of equipment and supplies had been delivered either by charter commercial airlift or US military planes from the US/and/or Panama. Cargo weight was in excess of one million pounds. The Peruvian requests for heavy duty electric power to reestablish the steel and fish meal plants could not be met on an emergency basis.

A survey of supplies provided and distributed was made on a field trip by the AID Disaster Relief Coordinator, Stephen R. Tripp, in August. He was accompanied by Carson Crocker, the AID Field Coordinator. They confirmed that more tents could have been used than were provided because shelter was the major problem faced by the disaster victims; that temporary shelter needs continued to be urgent and steps had to be taken by the Government of Peru, USG, international and US voluntary agencies to meet that need. The threat of heavy rains and cold weather expected the latter part of September meant that the tents could not protect the people and more secure shelter became the highest priority need. Emphasis was placed on purchase and delivery of corrugated metal and aluminum roofing to cover temporary structures put up by the disaster victims with the assistance of the Government of Peru, U. S. Peace Corps volunteers or voluntary organizations and groups.

In connection with electric power, AID/DRC and the Department of Defense made many attempts to locate and obtain either generating equipment of a suitable size or a power barge or ship that could be shipped to Peru to augment the power supply. The cost was to be paid by the Government of Peru or the users and every proposal fell through. Many small generators were supplied from the United States, however.

There have been several disasters in the past few years for which US assistance has been requested to provide electric power. In no case has AID/DRC been able to come up with the necessary equipment, although many hours have gone into trying. Power shortages exist throughout the United States and the world so that there is always a big demand for power equipment and a long lead time is needed before delivery can be made.

The small staff of AID/DRC was pushed almost beyond their endurance and

had to be augmented with temporary personnel provided by the State Department and other AID offices. Early reports of urgent need for doctors and nurses, later discounted, complicated and added to the work of both AID/DRC and Embassy staffs. The few queries tentatively initiated to determine availability of medical personnel, if needed, were taken by some to be requests to proceed and were so passed on by others to nurses and medical associations. In addition, direct contact was made to medical groups by private organizations and individuals in Peru. The matter snowballed to the point where AID/DRC and Department of Health, Education and Welfare were receiving hundreds of calls every day for over a week. Names, addresses, qualifications were taken down and volunteers told they would be contacted if needed. When the Government of Peru indicated that, with but a few exceptions for particular medical skills, no outside medical aid was needed, the people who volunteered were notified as quickly as possible or as they made return calls for information. However, the mistaken impression that professional medical help was lacking in Peru and urgently needed from the US continued to be circulated. Much time was involved in trying to convince volunteers their services could not be utilized.

Latin American State/AID Bureaus and Desks

There was a constant flow of communications between officials and personnel in charge of Peruvian affairs, the American Embassy and USAID in Lima and AID/DRC. These staffs were also available on demand to establish or state policy, contact US Government officials, approve funding, provide information to news media and aid in reporting to the President, Congress and the public. The State/AID Peru desks were responsible for working out with USAID/Peru and the Government of Peru the rehabilitation projects to be carried out with the \$7.4 million contribution by the USG.

Food for Peace Division, AID

The Food for Peace Division immediately approved the request that USG P. L. 480 food commodities in Peru be diverted to disaster victims and gave clearance for Catholic Relief Services to change shipments leaving the Gulf ports so they could go to Peru instead of original destination. These initial shipments of 530,000 pounds arrived in Peru between June 13 and 15. They were followed by approval of USAID requests for disaster relief food grants to Catholic Relief Services, Church World Service, Seventh-Day Adventist Welfare Service and World Food Program for distribution by them to the earthquake victims of 27,851 tons of food valued at \$5,891,000. Feeding programs, including food-for-work projects, were planned to continue until the end of 1970, and food shipments were scheduled on that basis.



*CRS shipment
of USG PL 480
milk powder
arrives at
Callao*

USSOUTHCOM (Including DAST)

The U. S. Southern Command at Panama responded immediately to requests from the American Embassy in Peru and AID/DRC in Washington. The 40-man Disaster Assistance and Survey Team (DAST), 2 HU-1D helicopters and cargo totaling 34,000 pounds arrived in Peru on June 2. DAST consisted of helicopter and maintenance crews and 24 other personnel among whom were doctors, medical specialists, a veterinarian, engineers, radio communications specialists, a parachute rigger and supply, operations, administrative and public information specialists. Deliveries of more cargo and helicopters followed along with additional supplies from Panama. There was excellent cooperation and coordination from Panama with AID/DRC and the American Embassy and the Military Group in Peru. Commander Meredith Jones of J-3 USSOUTHCOM was the main contact in Panama for placing requests for supplies, aircraft and military personnel. He did an outstanding job of coordinating the Peru relief operations from Panama and is highly commended by State/AID.

A total of 8 UH-1D and UH-1H helicopters was employed by DAST in its operations. Two of these crashed and one had to be returned to the Canal Zone for repair. For the most part, five were in operation during the time DAST was in Peru. The Hueys carried DAST members and other medical and relief teams to isolated villages, carried out the injured and transported disaster supplies. DAST visited over 250 mountain communities in and around the Callejon de Huaylas during its assignment in Peru. In addition to flying supply and air evacuation missions, they served as forward



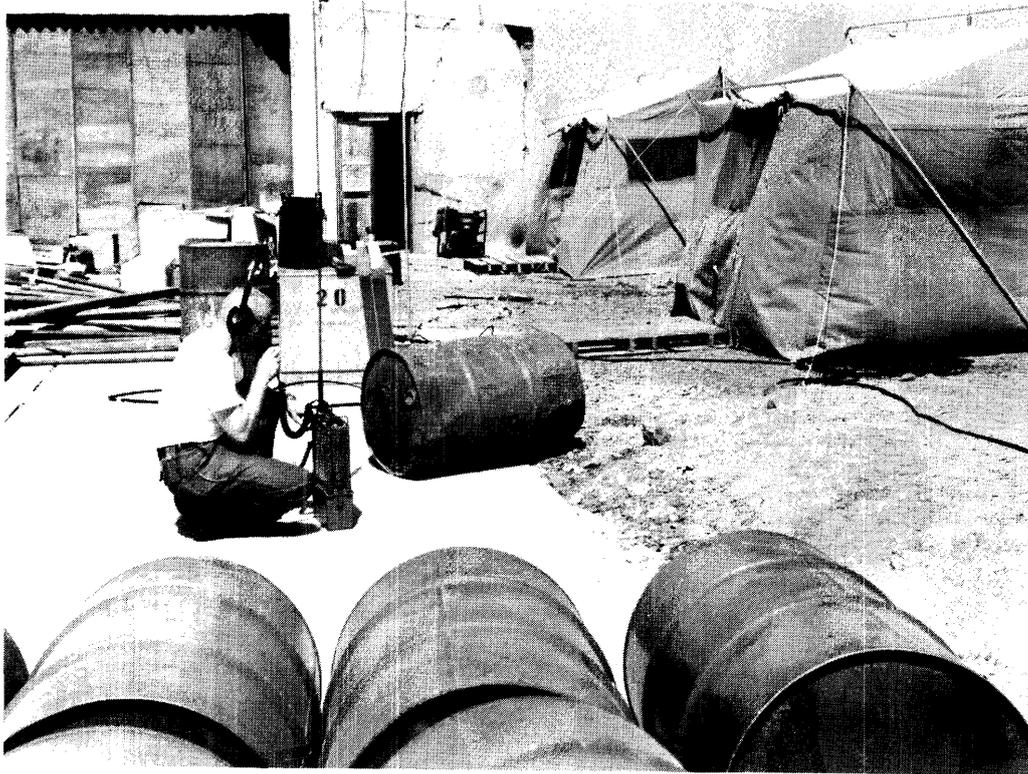
Food, medicine, tools, clothing and blankets are prepared for helicopter airlift to isolated villages in the Callejon de Huaylas

air controllers for US Air Force cargo aircraft. The US Army Huey helicopters operated from both the coastal town of Paramonga, 140 miles north of Lima, and Anta in the Callejon de Huaylas, 250 miles northeast of Lima. As forward air controllers for Air Force C-130 airdrops, the helicopter crews not only led the planes to areas most in need but landed following the air drops to retrieve parachutes and to show the area residents how to set up tents and to use the other supplies and equipment.

The C-130 and C-123 aircraft from the Canal Zone made a number of trips from Lima and Iquitos to Chimbote with heavy roadbuilding and clearing equipment. When the airstrip at Anta was finally reconstructed to where it could take the larger cargo planes, a USAF C-130 was the first to land there bringing in much needed construction equipment.

The majority of DAST returned to Lima on June 23 along with two of the helicopters which remained then on standby in Lima, while the other three continued with relief operations from Anta until July 11.

Hundreds of messages were routed each day from June 2 on through the USSOUTHCOM network of communications which supported the DAST operations. A team of US Army and Air Force communications personnel manned the radios on a 24-hour basis for more than three weeks, coordinating relief missions, receiving and passing on reports and making it possible for DAST personnel to conduct operations as smoothly as possible. Operating in two-man teams, the communications personnel manned their equipment at sites in the coastal cities of Paramonga and Chimbote and in the Huaylas Valley at Anta, as well as from the command post situated in the basement of the American Embassy



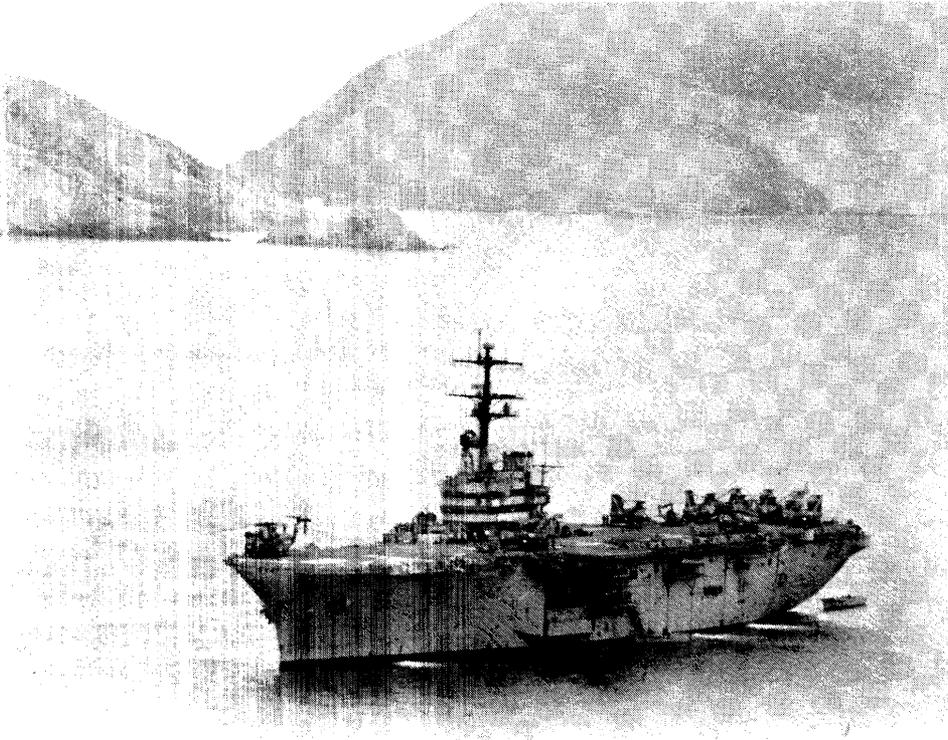
Chimbote Airport - DAST Radio Operator

in Lima. In addition, the team operated from the Air Force Operations office at the Lima airport where it maintained contact with Albrook and Howard Air Force Bases in the Canal Zone. It also established communications with the USS "Guam" during that operation in Peru.

The DAST operation was effective and greatly appreciated by the Government of Peru but it had problems as it had been organized in 1967 but had never been used. The following is quoted from a U. S. military report: *Conflict/confusion existed over the mission of the DAST. The DAST Commander's concept of operations placed total emphasis initially on assistance rather than survey. On the other hand, the concept of COMUSMILFOR/Peru and USAID was a thorough disaster area survey while providing only immediate emergency assistance such as medevac. The daily results of this survey would be utilized to deploy medical teams/relief personnel into those areas requiring assistance in their specialized fields and to provide essential data to the agencies involved in planning airlifts and other disaster relief activities. The completion of such a survey, although rendering little in the way of initial assistance, would have provided more comprehensive, effective assistance to the total population affected by the disaster, while insuring maximum utilization of resources available.*

As noted in these paragraphs, DAST provided rescue and life saving missions, civic action assistance, delivered emergency supplies to isolated villages

and performed many needed and heroic services. The only problem was it did not make the survey and assessment missions that were needed in order to get an overview of the disaster relief requirements on which to base more comprehensive emergency relief actions.



*USS "Guam"
at anchor in
Chimbote
Harbor*

USS "Guam"

Following the arrival of the two small Huey helicopters from Panama on June 2, the Government of Peru indicated to the American Embassy that there was an urgent need for more helicopters to reach isolated areas without any other means of contact. On June 4, the Embassy requested approval by Defense/State/AID officials for the USS "Guam" to come to Peru and lay off the harbor at Chimbote where its helicopters would be available to participate in rescue operations. This was received by the Assistant Secretary of State for Latin America, Mr. Charles Meyer, who recommended it to the Department of Defense and to the White House.

On June 5, the "Guam" was directed to divert to Peru. It arrived at Panama on June 6 where it loaded on disaster supplies, equipment and medical teams. The "Guam" had on board 16 Marine helicopters (15 were used), 3 Navy surgical teams, 2 other doctors, 50 medical corpsmen. It had 3 operating rooms and a 1,000 hospital bed capacity.

By June 8, the "Guam" had established a Disaster Control Center aboard to coordinate, record and direct relief operations in conjunction with requests of the COMUSMILFOR/Peru. On June 11 it arrived at Chimbote.



*"Guam"
helicopter at
a Cordillera
Negra village*



*Treating a
patient on
board the
"Guam"*

On the following day, a dramatic and effective series of relief operations was started in a program to carry 30 medical teams to places not otherwise accessible on the western slopes of the Cordillera Negra. These teams consisted of Peruvians and medical personnel from other nations as well as from the "Guam" itself. They were airlifted to villages on the high slopes by the "Guam's" 15 helicopters. The teams provided first aid treatment to victims and evacuated those seriously injured to the "Guam" or to hospitals in Lima, Trujillo, Huaraz, Casma and Chimbote. Between June 12 and June 16, phase 1 of these operations was completed, the helicopters having covered the Pacific slope area from Huarme north to Huallanca and Trujillo. On June 17, the "Guam" relocated off Paramonga and performed similar tasks in the area south of Huarme to Coral and Churin, returning for a short time to the Chimbote area to make resupply visits to previously contacted villages. By June 21, the "Guam" had completed its relief mission in Peru. Its helicopters brought aid to over 50 villages, some of them twice. The "Guam" terminated its stay in Peru with a good-will visit to Callao where thousands of Peruvians visited the ship.

Summary of US Military Air Operations in Peru:

Aircraft	Quantity	Dates	No. Sorties	No. Passengers	No. Medevacs	Pounds of Cargo
SOUTHCOM/CONUS Air Force & Army						
C-130 cargo plane	4	6/2-7/11	121	975	115	1,005,244
C-123 cargo plane	4	6/4-17	47	158	76	114,830
CH-47 Chinooks (1 crashed 6/7)	2	6/7-22	41	385	1	131,100
2 UH-1D; 6UH-1H helicopters (1 of each type crashed; 1 returned to CZ for repairs)	8	6/2-7/11	923	1,900	239	174,535
U-21	1	6/30-7/11	29	116	2	10,650
	19		1,161	3,534	433	1,436,359
USS "GUAM"						
CH-46A helicopter	1)	6/12-22	804	1,444	83	386,600
CH-46F "	9)					
CH-53 "	3)					
UH-1E "	2)					
	15					
Private US Helicopter under US Military Operational Control						
Bell Jet-Ranger	1	6/5-12	60	650	40	6,000
TOTAL	35	6/2-7/11	2,025	5,628	556	1,828,959 (831 MTons)

Department of Health, Education and Welfare

Counsellor to the President, Robert Finch, and the U. S. Surgeon General asked Dr. David J. Sencer, Assistant Surgeon General of the U. S. Public Health Service and Director of the Center for Disease Control in Atlanta, Georgia; Dr. Robert L. Price of the USPHS Division of Emergency Health Services; Mr. Leonard Board, Sanitary Engineer, OIH/USPHS; and Dr. Charles Williams of the Pan American Health Organization, to go to Peru and provide assistance to the Peruvian Government on health problems resulting from the earthquake. They arrived on June 8 and 9 and were followed by two others from HEW, Dr. Paul Blake, PHS Officer from the Center for Disease Control currently assigned to Puerto Rico, and Mr. Carlos Santiago, expert on packaged disaster hospital utilization.

A Medical Coordination team was established by the American Embassy. It consisted of the above personnel and four others--two US citizen volunteers, Dr. Drummond Rennie and Mr. Glenn Haydon, a disaster relief expert; Major F. V. Huff, US Army Sanitation Engineer from SOUTHCOM, Panama; and Mr. Charles Owen of the USAID Mission. This Medical Coordination Team assisted the Peru Ministry of Health in the following capacities. Doctors Sencer and Blake provided epidemiological and disease control consultation and survey. Dr. Price and Mr. Santiago dealt with matters concerning packaged disaster hospitals. Mr. Board served as a consultant on environmental, sanitation and other problems. Major Huff worked on water supply and sewage systems. Mr. Owen was liaison officer with the Ministry of Health and Peruvian disaster headquarters in the palace in Lima. Dr. Rennie organized volunteer medical teams to visit isolated areas in the Callejon de Huaylas to give aid where needed, evacuate injured and bring back information on medical needs. (See comments on Dr. Rennie under private--US assistance.) Mr. Haydon, who is Director of Development and Social Services of the St. Joseph Mercy Hospital at Mason City, Iowa, and was formerly employed by the American Red Cross, was appointed Medical Team Coordinator. Dr. Williams of PAHO worked with the team and assisted the Ministry of Health as well as local medical facilities in Peru.

The team met with the Peru Ministry of Health and determined that administrative, staff and logistic problems were not compatible with the establishment of the two USG-donated packaged disaster hospitals in the disaster area itself. Setting up one at a fair ground facility was considered but rejected because there was no firm indication there would be enough casualties to overwhelm the dozen or so hospitals in Lima. There were, however, serious supply and equipment shortages in Lima hospitals already affected by the initial casualties. It was decided that one PDH would be used to support the Hospital del Torax in Lima to expand the number of beds from 800 to 1200. When it became evident that extra beds would not be needed, the Director of the Hospital reported that the Ministry of Health planned to make a mobile unit out of the intact PDH to be held for future disaster use. Dr. Price recommended approval of such use provided that the drugs and perishables were put to immediate use and that they be replaced on a rotation basis.

Actions of the Medical Coordination Team were taken with full participation of the Peruvian Ministry of Health. All programs and actions were keyed to make them as much a Peruvian action as possible. The Team provided to the Peru Director General of Health lists of available medical manpower and goods as they became known. The MOH selected those services and goods from US offers it felt were necessary and could be utilized and passed this information on to the American Embassy, which in turn advised AID/DRC of the requirements.

The MCT held daily consultations with the Ministries of Health and Housing and Pan American Health Organization engineers and coordinating offices.

Dr. Paul Blake, who came to Peru to assist Dr. Sencer, arrived on July 14. He was sent to the Callejon de Huaylas to systematically collect reports about the status of communicable diseases in that area, to investigate reports and rumors of epidemics or serious disease, speed preventive assistance and to keep Peruvian health officials informed so they would not feel forced into conducting massive immunization campaigns unless epidemics threatened. Dr. Blake completed his assignment on July 8 and summarized his findings as follows: *In summary, there was no evidence to indicate that there was any increase in infectious disease as a result of the earthquake. Rumors of major epidemics proved to be false.*

AID/DRC approved payment of all or part of the expenses of some of the above team since some of the activities were undertaken at the request of AID/DRC and reports were provided. AID reimbursement from disaster relief funds were made for Dr. Robert Price (travel and per diem); Mr. Carlos Santiago (travel and per diem); Mr. Glenn E. Hayden (local per diem & travel to Washington from Mason City, Iowa, for debriefing report).

Miss Virginia Worsley, who is detailed to AID/DRC by the OIH/USPHS one day a week to work on health matters in connection with foreign disasters, worked every day on the Peru earthquake during the month of June and occasionally thereafter. She was in charge of the communications, oral and written, in connection with doctors and nurses who volunteered their services in Peru, as well as making arrangements for AID/DRC for detail of HEW and other medical personnel for Peru.

Peace Corps

Two young American women Peace Corps volunteers were killed when a wall collapsed on them in the town of Huaraz. They were Miss Gail Bross, 23, from Fremantburg, Pennsylvania, and Miss Marie Clutterbuck, 22, from Camp Belisport, Wisconsin.

The Director of the Peace Corps, Joseph Blatchford, left for Peru following the earthquake to mobilize the Peace Corps disaster relief effort and determine needs. He met with Government of Peru officials, the American Ambassador and other members of Embassy and USAID staffs. Twelve teams consisting of 40 Peace Corps volunteers with 40 additional available were organized to work with voluntary agencies in the disaster area and in



Temporary shelter project at Pensacola, a suburb of Chimbote, involving Peruvian Housing Ministry and the US Peace Corps

close cooperation with the Government of Peru Health Ministry in distributing supplies, caring for the injured and in making surveys of needs.

On July 2, the Peace Corps sent a team of 24 engineers, architects and construction volunteers to work on rehabilitation/reconstruction projects. Twenty-four PC volunteer nurses worked in hospitals along the coast and five or six accompanied the helicopters from the USS "Guam" and served in villages along the Cordillera Negra. Six physiotherapists requested by the Peruvian Institute of Physical Therapy were also sent from the Peace Corps to work with crippled children.

After emergency needs were met, the Peace Corps worked with the Government of Peru, the American Embassy and AID/DRC in determining roofing needs in the Callejon de Huaylas, as well as design and construction training for the rural people to help them in building suitable temporary structures.

U. S. Geological Survey

USGS requested permission from the American Embassy in Lima to send a team of geological experts to make studies of the earthquake area. The Embassy welcomed the team but indicated it could give only limited local support to them due to the demands on their time and facilities for the disaster relief effort.

AID/DRC coordinated arrangements for the arrival of the team with USGS and the Embassy. They arrived in Peru on June 13. The original team of Messrs. Erickson and Pflaker were joined by two others, Dr. Berg and

Dr. Mechan. They established direct contact with the Government of Peru on arrival and worked with Peruvian counterparts and the UNESCO technical team also there to conduct a survey. USGS paid for expenses of the team from their own funds.

A detailed and comprehensive preliminary report on their findings was published under Geological Survey Circular 639. Portions of it have been used in the description of the earthquake at the beginning of this report.

NASA

On June 12, NASA offered to make available to the Government of Peru the services of an aircraft to take black and white, color and infrared photographs of the earthquake damage area. The offer was accepted by the Government of Peru on or about July 1.

The NASA plane, a Lockheed Electra Remote Sensing aircraft, arrived in Lima with a party of eleven on July 12. Mr. Olaf Smistad was Project Manager. The first batch of photos from the NASA assessment team was pouched from Washington to Lima and was presented by Ambassador Belcher to General de Brigada Carlos Villa Pazos, President of the Reconstruction and Rehabilitation Commission on August 6. Additional boxes were pouched to the Embassy to be turned over to the Government of Peru from August 7 to August 12, with one final shipment made later in the month.

White House Steering Group and Peru Earthquake Voluntary Assistance Group

On June 8, President Nixon directed the establishment of a special steering group under Robert H. Finch, then Secretary of HEW, to plan and coordinate the US effort in Peruvian relief. This special group included representatives of State, HEW, AID, Defense and the Peace Corps.

Counsellor Finch talked by phone with Ambassador Belcher in Lima on June 10 receiving from him a list of priority items which could be donated by voluntary groups and effectively utilized. At that time priorities were blankets, tents, comfort kits, cots and roofing material. This information was passed on to the voluntary groups through AID/DRC and the Voluntary Agencies Division of the Office of Private Overseas Programs, to aid them in determining their contributions.

On June 30, Counsellor Finch advised Ambassador Belcher that he was sending a team of four construction experts who would arrive July 1 to begin a 5-day examination and assessment of the quake damage to housing in the Department of Ancash and other afflicted areas. The team did not concern itself with steps which were or could be taken by the USG to assist in this area of need, but rather those things that could be done by the private sector in the US to aid in the shelter program. The Peace Corps escorted and worked with this group during their entire trip.

On June 24, it was announced by Counsellor Finch that under direction of President Nixon, a special group, the Peru Earthquake Voluntary Assistance

Group (PEVAG), had been formed to coordinate the private contributions of American citizens and agencies to help Peru. Mr. Charles P. Taft, former Mayor of Cincinnati, Ohio, and a current member of its City Council, agreed to chair the new organization. Mr. Taft is the Chairman of the Advisory Committee of Voluntary Foreign Aid and has served in this capacity since The Committee was established by President Truman in 1945.

PEVAG made up suggested guidelines for the kinds of assistance most needed in Peru and encouraged a regulated flow of needed supplies from the voluntary groups timed to meet Peru's recovery and rehabilitation needs. Since the emergency phase was stabilizing by June 24, priority requests for food, clothing and medicines were no longer being made by the Government of Peru or the American Embassy. Emphasis was on temporary shelters, blankets and cash donations. Since tents would not be satisfactory once the cold, rainy season started in September, voluntary agencies were informed that the most desirable items for them to provide would be metal and aluminum roofing to cover temporary shelters built by the disaster victims themselves or in cooperation with the Government of Peru and voluntary organizations in Peru, as well as tools, equipment, machinery and construction material.

Several meetings of PEVAG were arranged. Assistance already provided from the private sector was analyzed and discussions held on what was needed and on the plans of the voluntary groups for rehabilitation and reconstruction.

To aid PEVAG, a small staff was assigned to it under the direction of Counsellor Finch and Chairman Taft with liaison between the staff and the White House carried out by Dr. George Grassmuck. Activities of PEVAG were coordinated with AID/DRC and the Voluntary Agencies Division of the Office of Private Overseas Programs.

President and Mrs. Nixon and Secretary of State William P. Rogers

On June 2, the following message was sent to President Juan Velasco by President Nixon:

I would like to extend on behalf of the people of the United States our sincere and profound sympathy and condolence to the Peruvian Government and people for the tragic loss of life and suffering caused by the disastrous earthquake. Natural disasters such as this terrible earthquake always remind us of the frailty of humanity in the face of natural catastrophes and of the need to join together in lending assistance. I am sure the courageous spirit of the Peruvian people will respond to this situation in a manner that will set an example for the other peoples of the world.

On June 3, a message was also sent to the Peru Foreign Minister Mercado by Secretary of State Rogers offering prompt emergency assistance from the United States in response to any request made through the American

Ambassador.

The President designated Counsellor Finch as over-all coordinator and this later led to the setting up of the Peru Earthquake Voluntary Assistance Group.



*Mrs. Nixon and
Mrs. Velasco rest at
a child care center
in Huaraz.*

Mrs. Nixon wanted to express the concern of the people of the United States for the earthquake victims by a personal visit to the disaster area. She arrived in Lima on board the Presidential aircraft "Air Force One" on June 28. The President's plane carried relief supplies contributed by private volunteer groups and was accompanied by another plane with additional supplies. Mrs. Nixon presented checks to the Junta de Asistencia Nacional and to the Peru Red Cross, approximating \$25,000 each. Mrs. Nixon, accompanied by Mrs. Consuelo de Velasco, wife of the President of Peru, made the hazardous trip to the Callejon de Huaylas in a US Military C-130, landing on the improvised airstrip at Anta in the upper Andes. She went by US Military helicopter to several of the disaster sites where Peruvian and international volunteers were working to alleviate the suffering of the earthquake victims, including the devastated city of Huaraz. Her warm-hearted approach and courage in flying to the disaster area were applauded by the people of Peru and contributed greatly in demonstrating the compassion of the people of the United States for the disaster victims.

Recap of USG Assistance from June 1 to September 1970:

44 plane-loads of supplies from US and Panama, including helicopters, 7,149 tents, 36,656 blankets, 3,740 cots, 2,200 sleeping bags, 12 water purification units, 1 million doses anti-typhoid vaccine, 2 packaged disaster hospitals, tetracycline, 500 water cans, cooking, eating utensils, Army-type stoves, disaster kits and assorted other items. Cost of USG emergency relief including air transportation to and within Peru, plus medical, disaster and technical team expenses..... \$3,150,000

USG and Government of Peru bilateral agreement for rehabilitation

Education.....	-\$2,540,000	
Portable electric generating units.....	400,000	
Urban and agricultural tools and equipment.....	580,000	
Agricultural credit for concessional credit to farmers to purchase seed/fertilizer, etc.....	780,000	
Repair irrigation networks.....	750,000	
Construct and equip medical clinics in Callejon...	400,000	
Temporary housing.....	500,000	
Purchase of aluminum corrugated roofing for temporary shelters, including transportation.....	700,000	
Contribution to OAS temporary housing project.....	500,000	
Plus additional contribution on matching basis...	250,000	\$7,400,000

USG P. L. 480 food - 27,851 tons approved for distribution through CRS, CWS, SAWS and World Food Program.*..... 5,891,000
\$16,441,000

*

Note: Indications were that some of WFP shipments might be cancelled due to inability of WFP to make distribution

Appraisal of US Assistance with Regard to Peruvian Relations

The U. S. assistance was greatly appreciated and the President of Peru commented that the US and its people were characteristically and historically humanitarian and generous in times of trouble. As relief operations progressed, individual relations improved in many cases to the point of firm friendliness and by the time Mrs. Nixon completed her visit on June 30 and returned to the US, a great deal of warmth and admiration was expressed at all levels including high officials, the press and the people.

The President of Peru in his speech of July 28 stated categorically that Peru is under new national policy directives which are fixed and unalterable. He said that whatever assistance or friendly moves are made by foreign nations will be appreciated and reciprocated as circumstances permit but that such measures will not modify Peruvian policies.

It would appear that under the present regime such policies as those relating to (a) foreign investment, (b) agrarian reform, (c) 200 mile limit, (d) industrial law and nationalization of foreign interests, including IPC, and (e) relations with communist or non-aligned nations, including a rapprochement with Cuba, are not to be modified by friendly influences. It appears that as a result of friendlier feelings, it will be easier to discuss mutual problems, but not necessarily easier to resolve them.

Appreciation and Honors for US Assistance

June 5 - Ambassador Belcher cabled he had received profuse thanks for all the USG was doing from various cabinet ministers, as well as expressions of deep appreciation for the work and aid being given by private and public relief organizations and individuals from the US. His cable also stated: *Would like to take just a few minutes out of everyone's frantically busy day to express tremendous admiration on part of all participants here for fantastic response and backstopping operation in Washington, Panama and elsewhere.*

June 10 - Report that the Lima Daily El Comercio had carried a highly laudatory editorial singling out the US for special praise for generous contributions to the relief effort.

June 18 - the following telegraph was received from President Velasco by President Nixon:

The call made by your excellency for the friendly people of the US to increase their already generous aid toward the victims of the recent Peruvian disasters, as well as the establishment of the National Committee for Assistance to Peru, with a minister of state as head, must be taken as evidence that America once again becoming the continent of solidarity and brotherhood, where there is no room for egotism; and that also from this sincere union our countries must achieve the development and progress for which their peoples call. Accept once more, most excellent Mr. President, the gratitude of the Peruvian nation and the sentiments of my personal esteem.

June 22 - US military pilots and crewmen who resupplied mountain villages east of Chimbote were presented gifts by the villagers to thank them for their help. Among the gifts were pure silver coins dating back to 1924 and hand made pottery. Some of the pottery pieces reportedly date back about a thousand years.

June 23 - Secretary of State Rogers sent the following message to Ambassador Belcher in Lima for delivery to the Commanding Officer and crew of the USS "Guam": *I wish to express my appreciation to the officers and men of the Guam for the impressive job they have done during the past two weeks in assisting the Peruvian people stricken by the terrible earthquake of May 31. Your rapid and effective response is in keeping with the best traditions of the United States Navy and Marine Corps. Congratulations on a job well done.*

June 24 - Two Navy and two Marine Corps officers from the "Guam" were decorated with the Peruvian Cross of Naval Merit by the Peruvian Government. Ceremonies were held at the Navy Ministry.

June 26 - Fifteen members of the US Army (USSOUTHCOM and US MAAG/Peru) were awarded the Peruvian Cross of Military merit for their contributions to the relief efforts. Ceremonies were held at the Ministry of War.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES AND PRIVATE SECTOR

AMERICAN ALPINE CLUB (North American Andean Relief Mission)

The American Alpine Club made a direct offer to the Government of Peru to send a team of mountain climbers, including several doctors. On June 9, the AID Disaster Relief Coordinator was requested to advise the Club that its offer had been accepted and the Government of Peru would like them to come and work on the eastern slope of the Cordillera Blanca.

On June 15, the team was airlifted from Lima to Anta, the airstrip in the Callejon de Huaylas. There were 27 members in the team which consisted of



Anta airstrip just north of Huaraz. Mt. Huascarán in background

two team co-leaders, three doctors, three nurses, two veterinarians, five medical students, one former Army medical corpsman, two radio communications and one water purification expert, three interpreters and five mountain climbers.

On June 16, they proceeded overland by truck over the Punta (pass) Cahuish (14,250 feet) to Chavin and from there moved on to Huari on the 17th. Emergency repairs had just made it possible to reopen the road. While it was passable, it was difficult and very treacherous. It took ten hours to make the 80-mile trip from Huaraz to Chavin. The team carried enough supplies and medicines for a month and set up their base of operations at Huari. Here the group was broken up into smaller teams which were then sent to towns and villages of the region, usually on foot, but by truck or bus whenever possible. They found their most effective personnel breakdown to be a doctor, a nurse, an interpreter and a mountain climber, with the first three working together while the mountain climber surveyed homes, water supply, etc., and helped with carrying medical supplies.

This medical assistance group differed from other US offers in that all members of the team, regardless of other specialties, were mountain climbers and could move about the mountainous region with comparative ease. Also, the group could take care of its own logistics without reliance or help from the outside. This was one of the reasons for its ready acceptance by the Government of Peru.

The region assigned to the North American Andean Relief Mission by Peru's National Emergency Committee had not been given much attention prior to this time because the authorities had grave doubts it could be effectively given because of the difficulties of communications and terrain.

Team findings: Fewer medical casualties than might have been expected; few towns completely flattened; where destruction was great, generally the town was smaller and the people had been able to escape from houses into open space--consequently there were few victims from crushing; greatest number of injuries came from falling rocks. Feared epidemics did not materialize.

The team performed a second useful and important function by surveying damages in different parts of the region assigned. They reported they were received with less suspicion by the villagers and campesinos of the higher country. The people in this region normally request no help of any kind from the authorities in the towns below, having learned from experience that help rarely comes from there.

According to the team, the worst damage on the eastern slope of the Cordillera Blanca took place in San Marcos. Here about 80% of the houses and all but one of the schools were destroyed. Huantar, another big town in the area, was 50% destroyed. Huari, Chavin and Huachis were damaged to a lesser extent.

The team found priority needs to be building materials and cement so homes could be repaired or temporary shelters constructed before the rainy season. They commented further, however, that:

As grave as the destruction of houses was, the most serious problem in Huantar was the disruption of the water canals. Huantar lies on a kind of plateau. Its main source of water for irrigation and for drinking was an 11-kilometer aqueduct that brought water to the town from the Quebrada Carhauscancha. This was broken in numerous places. The only other source of water is a spring near town, which normally runs dry about July 15. The officials estimated a need of 300 to 500 bags of cement and two months of labor to repair the aqueduct.

Water canals were also severely damaged in Yaquia, Jatock and other towns. The Alpine group reported official action was being taken on their recommendations that technical assistance be provided, and also that the team itself had since their departure sent money to help pay for cement and other building material.

On their arrival in many of the villages, the team reported many of the people were still stunned by the catastrophe and were doing little or nothing. The mere fact of the team's coming and showing an interest seemed to help morale and give impetus to many to get to work to help themselves. The following interesting observation was made concerning the Huantar District:

Huantar was an exception in that the central town took an interest in the outlying villages of the district and was taking steps to provide what help it could not only to the main town but to the outlying portions as well. An isolated town, they expected no help from the outside world and were already doing what they could for themselves. The town leadership was energetic and morale was higher than elsewhere. They had already made a complete earthquake-damage survey of the district (8 towns).

The Alpine Club reported it had collected money from private sources in the United States to cover the team's expenses and also that they had been able to send directly to Huantar, San Marcos and Huari small sums for specific reconstruction purposes and a larger sum for distribution by the Bishop of Huari for specific projects in outlying districts. The Bishop has for some years been actively engaged in sponsoring successful self-help welfare projects in the region.

Contributions to and by the Alpine Club:

Travel, equipment, expenses 27 team members	\$16,200	
Cash donations for rehabilitation/reconstruction	<u>3,500</u>	\$19,700

AMDOC

This is a California based organization which initiated a program for taking down the names of doctors, their professional specialties and addresses, in order to provide immediate medical assistance to Peru, if needed. When offer was first made by AMDOC to send medical teams, the Government of Peru had already indicated on June 7 that they had over 100 Peruvian doctors awaiting assignments and that the Minister of Health could not use additional doctors at that time. However, approval was later obtained from the Government of Peru for AMDOC to send two teams consisting of 22 paramedics and a technician. They arrived in Lima on or about June 15, reporting directly to the Junta de Asistencia Nacional (JAN). The wife of the President of Peru, Mrs. Velasco, is head of JAN and arrangements were made by her for the teams to work in the earthquake areas. On completion of their activities team members were decorated by the Government of Peru. Information is not available on costs incurred by the team.

AMERICAN NATIONAL RED CROSS AND PRIVATE ASSISTANCE MADE THROUGH ANRC

The first report of the earthquake was received at 10:30 p.m., May 31 by ANRC, via radio patch directly from Lima. The Peruvian Red Cross appealed to ANRC for assistance. Immediate action was taken. A 10-man team of disaster specialists was dispatched to work with the Peruvian Red Cross. Also, a Red Cross representative accompanied the U. S. Government Disaster Assistance and Survey Team from Panama and another representative was sent from California to Washington, D. C., to help in the office of the AID Disaster Relief Coordinator in whatever way he could.

ANRC direct emergency relief consisted of \$50,000 in cash to the Peru Red Cross for local purchase of relief supplies, plus airlift of food, clothing, medicaments, blankets and tents from the United States.

The American National Red Cross team was considered a part of the League of Red Cross Societies (LICROSS) delegation made available to the Peru Red Cross to give technical assistance. One of the ANRC officers was stationed at the Lima airport to help take possession of all Red Cross gifts. They were then forwarded to the PRC warehouse where another ANRC relief expert assisted. Others of the ANRC team were stationed in disaster areas, such as Anta, Chimbote, and Huaraz and provided valuable support to the PRC.

Summary of ANRC emergency relief contributions:

From June 4 through June 13 shipments were made of the following:
1700 blankets, 1,338 blood containers, 384 transfer packs, 5,000 packages of baby food, 5,102 packages of syringes, 12,408 pounds of freeze dried food; 18 vials of serum; 50,000 comfort kits, followed later by 50 Aquapac portable water purifiers, 11,850 cases of baby food, 667 yards of laminated knit cloth. Except for the 11,850 cases of baby food, these emergency supplies were airlifted to Peru via Braniff or Pan American airlines.
Value of all of above supplies.....\$ 376,461
Additional clothing and school chests sent in Sept., value..... 8,836
ANRC cash donations to Peru Red Cross 50,000

Except for the blankets, comfort kits, clothing and school chests which came from ANRC warehouses and local ARC chapters, the above supplies were donated to ANRC for the earthquake victims by: Fenwal Labs, H. J. Heinz Co., Pharmaseal Labs, Becton-Dickinson, United Fruit Co., Ogden Filter Co., Beechnut Corp., Lacy Manufacturing Co. and Spectra Biologicals.

Summary of ANRC rehabilitation/reconstruction contributions:

ANRC obtained the following donations of corrugated metal and aluminum roofing. Arrangements for surface shipment were made by ANRC with reimbursement of transportation costs from the U. S. Government (AID).

	Pounds	Value	
U. S. Steel Company	26,480	\$ 3,031	
Jones & Laughlin Steel Corp.	122,760	15,000	
Alcoa Aluminum Co.	82,655	29,992	
Inland Steel Co.	160,950	16,959	
Reynolds Metal Co.	70,740	30,000	
Armco Steel	1,688 Sheets	5,991	\$100,973
		<u>536,270</u>	

In addition, the American National Red Cross purchased with \$28,478.70 provided by the British Red Cross Society 300 tents and 1,350 blankets and arranged for shipment. This has been credited under Other Nations.

ANDEAN FOUNDATION
 ACCION INTERNATIONAL
 AMERICAN CHAMBER OF COMMERCE IN PERU

These three groups planned to work together on a program to rebuild the City of Casma, a coastal town of about 15,000, which was almost totally destroyed by the earthquake. Contribution by Accion was primarily managerial and administrative expertise, and it signed a contract with the American Chamber of Commerce in Peru to administer the program in Casma. Accion made a grant of funds to its local affiliate, Accion Comunitaria del Peru, for additional staff to help rebuild the town of Ocros.....\$ 6,000

The American Chamber of Commerce in Peru is composed of 75 corporate members and 250 individual members. In cooperation with the Andean Foundation it planned a \$1 million fund raising drive which was to have gone into full swing during the month of September 1970. At the time this report was written they had collected.....\$23,000

Long range reconstruction plans for Casma were formulated. No-interest loans will be made to low income families to rebuild homes.

BELL HELICOPTER COMPANY

A Bell Jet Ranger was one of only a handful of helicopters in Peru when the earthquake struck. Nothing but helicopters could reach many of the hardest-hit communities. Jet Ranger No. 444 was on an International Marketing Department demonstration tour of Central and South America and was in Lima undergoing routine maintenance. Bell Helicopter immediately offered the services of the Jet Ranger and support personnel.

By June 4, a team of three Bell employees was in action in the disaster



Bell helicopter performing medical evacuation.

area. Pilot Gary Hildebrandt and Service Representative Jim Ferguson operated the Jet Ranger from a base camp at Anta (See picture under American Alpine Club above), while D. S. Rhodes, International Marketing Manager, remained in Lima coordinating the Bell team's activities with the U. S. Military Group Control Team.

During eight days of operation, the Bell helicopter made over 60 flights, evacuated 40 injured, transported 650 doctors, technicians, inspectors and others, and delivered approximately three tons of medicine, food and equipment. The services of this helicopter and team were much appreciated by the Government of Peru and the U. S. Government.

The Bell Helicopter Company was contacted to determine what value it wished to place on its services and the following reply was received: *Since the Jet Ranger already was in Peru and the personnel were the regular demonstration team, we don't feel that there is any cost factor that we should include. We just considered it as part of the demonstration tour and were happy that circumstances had the helicopter in the area at a time when it was needed.*

BRANIFF INTERNATIONAL AIRLINES

Braniff International moved its first emergency shipment from Miami to

Lima on the day following the earthquake, then quickly established its own relief control headquarters and a system of collection and transportation of emergency supplies to Lima from the 50 cities it serves in the United States and Latin America. More than one million pounds of goods were transported including 400,000 pounds free of charge. The balance was carried as paid cargo primarily on large jet freighters which Braniff chartered to the U. S. Government Agency for International Development. Braniff also provided free transportation for 25 doctors, nurses and technicians.

Value of donated airlift for 400,000 pounds figured at	
35 cents per pound by Braniff.....	\$ 140,000
Free transportation of medical specialists.....	7,000
	<u>\$ 147,000</u>

BROTHERS BROTHER FOUNDATION AND BAPTIST WORLD ALLIANCE

Brother's Brother Foundation sent four medical personnel who arrived in Peru on June 10 for a ten-day tour of duty in the disaster area. Baptist World Alliance channeled aid through Brother's Brother Foundation of Pittsburgh and the Southern Baptist Convention. The following contributions were made by these two groups:

167,000 doses polico vaccine (Baptist World Alliance)	\$35,000	
17,000 pounds aluminum cooking utensils	20,000	
48,000 doses typhoid vaccine	5,000	
jet inoculators	5,000	
other medical supplies and equipment	5,000	
cash donation (Baptist World Alliance)	5,000	\$ 80,000

SOUTHERN BAPTIST CONVENTION

Responding to appeals from their missionaries, SBC sent cash for relief of families and reconstruction of homes and churches, totaling.....\$15,000

CALIFORNIA FRIENDS OF PERU (Operated by San Francisco Chamber of Commerce)

This group was formed on June 3, 1970, and is incorporated in California as a nonprofit organization.

Initially its efforts were directed to emergency relief and on June 9, 1970, it sent a fully loaded Braniff 707 cargo liner to Peru with 38 tons of blankets, food and medical supplies, followed by 100 tons of used clothing and blankets sent ocean freight in September. Value of these supplies plus air and surface transportation charges were estimated at.....\$ 348,000

Rehabilitation and Reconstruction

The major goal of the California Friends was to provide emergency shelter in the town of Carhuaz in the Callejon de Huaylas, in cooperation with the Peruvian Commission for Reconstruction and Rehabilitation and the Peruvian Ministry of Housing. Sufficient roofing material to cover 2,600 dwellings was sent from New Orleans in August. The "twin rib" roofing was obtained from the Kaiser Aluminum Company and consisted of 16,250 sheets, size 4x12 feet. Material for 2,000 roofs was purchased from Kaiser by the California Friends, while the balance of 600 was donated by Kaiser. Total value of this roofing.....\$100,000
\$ 448,000

The California Friends has a committee of businessmen who work for San Francisco-based companies. In addition, the Marcona Corporation donated the services of one executive who moved from Chile to Carhuaz. Kaiser Aluminum Company sent an engineer to Carhuaz to work on the shelter program.

CARE

The following emergency relief supplies were sent by CARE:

Cash for local purchase of tools/housing materials.....	\$ 11,000
5,350 blankets.....	16,050
999 cartons black bean soup.....	2,997
11,008 cartons multi vitamins.....	506,720
2,020 cartons protein space sticks.....	171,700
	\$708,467

Housing Program

The main focus of CARE's rehabilitation effort was a permanent housing project. Under an agreement with Cooperacion Popular, an agency of the Ministry of Housing of Peru, CARE agreed to provide (1) program support for volunteer reconstruction and housing teams to work in six zones of the Department of Ancash; and (2) construction materials for from 450 to 600 houses in the tentatively selected communities of Olleros and Huarimpampa, Province of Huaraz, Department of Ancash.

The houses were designed for a family of four, each having 327 square feet, of adobe brick construction reinforced to withstand future earthquakes and with additional poles for secondary reinforcement. Houses are modular in conception so that additional units or wings can be added at a later date. Supervision of construction was provided by Cooperacion Popular and volunteer teams of University students administered by Cooperacion Popular. CARE provided an on-site project coordinator in the zone of Huaraz.

Breakdown of costs for CARE support of the housing program:

Project 1 - Equipment consisting of diesel generating plants, survey equipment, tents, sleeping bags, first aid kits, etc. \$17,631

CARE (Cont'd)

Housing construction materials consisting of cement,
roofing, nails.....\$ 72,000
\$ 89,631

Project 2 - \$92 each per house for construction materials
(sand, rock, adobe, wood); plus \$60 each per house for
labor, transport, technical services. The total value
at \$152 per housing unit \$68,000 or \$91,000 depending on
the number of houses built. For purpose of this report,
the lower figure will be used..... 68,000
\$157,631

Total Emergency and Housing Commitment for CARE\$866,098

CHAMBER OF COMMERCE - PORTLAND, OREGON

Announced plans to build a home for 30 Peruvian orphans.
Estimated cost 50,000

CATHOLIC RELIEF SERVICES

Catholic Relief Services had the largest on-going US voluntary agency program in Peru prior to the earthquake. It had two representatives from the US there to administer this program; two others were dispatched immediately after the earthquake to help with disaster relief operations undertaken by CRS/CARITAS. In addition, there are 500 Catholic missionaries from the United States who are actively engaged in the regular CRS/CARITAS program. Many of these were already in the earthquake areas to give immediate aid and many were sent to the earthquake areas from other sections of Peru.

The Government of Peru assigned CRS/CARITAS to carry out food distribution in the Provinces of Trujillo, Santiago de Chuco (Department of Libertad); and Provinces of Santa, which includes Chimbote, Huari, Cajatambo and Chancay.

CRS response from the US was immediate. CRS stocks already in Peru were released for disaster relief; vessels already on the high seas slated for other destinations were diverted to Peru with food and clothing and on June 2 the first of several airlifts of CRS supplies departed for Peru. Following is a summary of CRS air and surface shipments, as well as in-country contributions. Amount and value of USG P. L. 480 food shipped by CRS are not included.

June 2-8 - Release existing stocks in Peru of 200 tons
of food, clothing, medicines, valued at \$250,000
June 10, 16, 28 - Arrival in Peru of 430 tons of food,
clothing diverted to Peru from high seas.

This consisted of 236 tons P. L. 480 food, valued at \$81,400. Balance of 194 tons was from CRS resources, valued at.....\$358,600

June 2-12 - airlifted 89-1/2 tons antibiotics, vaccines, sera, antitoxins, surgical dressings, bone implants, blankets..... 502,395

June 16 to July 20 - arrival in Peru via surface shipment 995 tons of supplies consisting of clothing, blankets, medicines, shovels, picks, cough medicine, canned food, 6 jeeps, 3 pick-up and 2 5-ton trucks, 6 portable gas powered jack hammers, 8 concrete mixers..... 875,000

July 27 to August 14 - arrived via surface shipment 44 bales blankets, 7 jeeps, 3 pickup trucks, 2 stake body trucks, 9 dump trucks, 1 tractor w/dozer blade, 6 water pumps and hoses, 2 arc welding sets, surveying transits, levels, 2 skids heavy plastic sheeting, 12 truck tires, 8 concrete mixers..135,000

Aug. 16 - arrived via surface shipment 1 tractor w/ dozer blade, 1 compressor w/jack hammer, drill and appropriate hoses, 1 pickup truck, 6 5KW generators..... 40,369

Subsequent deliveries by surface included:

5 5-ton dump trucks, radio equipment..... 33,775

200 tons corrugated roofing (32x8' sheets)....48,750

135 rolls plastic sheeting (52,000 sq. yds.), donated through CRS by B'nai Brith..... 5,290

Cash for local purchase 14,000 sheets roofing,25,000

Cash for local purchase of tools..... 3,000

\$2,271,889

(Note: Included in some of above shipments are contributions of medicines and medical supplies by Catholic Medical Mission Board and Medical Surgical Relief Committee valued at \$127,000 and \$32,365, respectively.)

Catholic Relief Services provided valuable assistance to many donor groups in the US collecting relief supplies for the earthquake victims by providing such groups with warehousing, bailing, shipping and distributing services. Such groups were located in the metropolitan New York area, California, Philadelphia, Miami, New Jersey, Massachusetts, Seattle and other communities. From a donor in the northwest 10,955 pounds of cabbage and spinach seeds were sent by CRS from Seattle to Peru. A considerable portion of these collections consisted of clothing and blankets.

Of the very large quantity of supplies collected at Miami, 35 tons were sent to New York for processing and some was stored by the Salvation Army. The majority of the Miami collections, however, was sent via a commercial ship and by Project Handclasp directly to Peru. The Salvation Army and other volunteers sorted and packed this material for shipment, and

AID/Washington requested CRS to arrange for the surface shipment. It arrived at Callao on or about July 24 for delivery to the Junta de Asistencia Nacional (JAN).

CRS-USCC also received air shipments of supplies originating outside the United States at Lima for distribution by CARITAS. This amounted to 117 tons of medicines, clothing, blankets, chlorinating equipment and tents valued at \$254,204. However, these values are credited under Other Nations.

A delegation from the two international Catholic groups cooperating with CRS in its Peru disaster relief program, namely CARITAS, Internationalis and International Cooperation for Socio-Economic Development, visited Peru the first week in August to discuss the implementation of specific projects in the disaster areas. German CARITAS made a \$50,000 grant for priority use by CRS in the earthquake areas.

CRS has to date sent via surface shipment 5,541 tons of USG-donated P. L. 480 food commodities valued at \$669,979. This is credited under the U. S. Government section of this report. This food is being used for distribution by CRS to 180,000 needy recipients over a period of 120 days, including 30,000 participating in food-for-work projects.

Rehabilitation and Reconstruction Phase

CRS projects consisted of hospital reconstruction, secondary roads, rubble removal, irrigation repair/reconstruction in the provinces of Santa and Huari; rebuilding of hospitals, clinics, homes for the aged and low cost housing in Trujillo, Otusco, Santiago de Chuco, Cajetambo, Chancay and Bolognesi areas. Generally, however, CRS food-for-work rehabilitation and reconstruction projects focused on Chimbote and surrounding environs, the hardest hit sections of the CRS assigned disaster area.

CRS reported that Catholic churches in the United States raised \$1,325,000 for the Peru earthquake fund. Of this approximately \$550,000 had been committed at the time this report was written. Future reconstruction plans to be initiated with balance of these funds are being held up until the Peruvian Government reports on its reconstruction program so that CRS can determine a complementary program.

For possible long term activity, CRS brought Father Vander Rest from Chile to study the possibilities for large scale urban housing projects of wood construction. Father Vander Rest headed the Hogarde Cristo prefab housing operations in Chile.

CATHOLIC GROUPS IN UNITED STATES

The following Catholic Fathers and Sisters had personnel working in Peru on emergency/rehabilitation and reconstruction programs or contributed supplies or funds:

Dominican Fathers - 17 US priests in Peru	
Dominican Sisters - 7 US sisters in Peru. Funds raised...	\$25,000
Holy Cross Missions - funds raised for emergency aid.....	12,000
Joseph of Carondelet Sisters - 7 US sisters in Peru, funds raised for emergency relief.....	23,000
Marianists - 60 US priests in Peru	
Maryknoll Fathers - Four 3-man teams composed of Maryknoll Fathers and Sisters working on disaster relief. They also launched a \$500,000 fund raising drive but information on amount raised was not available at time this report was written.	
Maryknoll Sisters - US sister volunteers	
Mercy Sisters - sent cash to Mercy Communities in earthquake area.....	10,000
Sons of Mary Missionary Society - sent 6-1/2 tons medicine and 32 cases used clothing. 3 doctors provided medical assistance in Chimbote during emergency period	
Society of St. James the Apostle - 45 men in Peru, most of whom worked in the disaster area. Also sent relief medicines and clothing valued at.....	<u>100,000</u>
	\$170,000

CHRISTIAN CHILDREN'S FUND

Allotted funds to rebuild the Salvation Army children's home at Trujillo.....	20,000
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CHRISTIAN AND MISSIONARY ALLIANCE

Has 25 US missionaries in Peru. Their rehabilitation plan consisted of providing a basic relief home unit for families of church members whose homes were destroyed or uninhabitable. The unit was planned to include one or two bedrooms, kitchen, living room and bathroom. Christian and Missionary Alliance also planned to aid those whose homes were partially damaged. Value of aid was not reported.

COMMUNITY DEVELOPMENT FOUNDATION, INC.

Community Development Foundation, Inc. has three US temporary staff in Peru working with the Peruvian Government and Peruvian voluntary agencies. At the time this report was written nine CDF projects to improve communication and sanitation in the earthquake area had been completed. The CDF program was implemented through the issuance of cash awards directly to those who contributed volunteer community service. Initial funding by CDF for this purpose.....	40,000
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CHURCH WORLD SERVICE

Emergency Phase

Church World Service had three locally organized and equipped medical teams in the disaster area within four days of the earthquake. A fourth team of USA and Bolivian medical personnel joined the effort later. The teams inoculated 2,500 persons and treated over 500 others for various injuries with their work centering in the villages of Yautan, Quillo, and Pariacotoa on the western slopes of the Sierra Negra. CWS sent from the US water purification tablets, antibiotics and vaccine for use of these teams. By June 20, it was possible to withdraw the medical teams.

The small stock of USG PL 480 commodities, some winter clothing and blankets on hand in its warehouse in Peru were either sent to the medical teams or released to other agencies. These stocks were quickly supplemented by the purchase of \$15,000 worth of locally produced potatoes, corn and beans. Stoves and cooking utensils were acquired and emergency feeding stations were established in several coastal towns and mountain villages under the direction of Salvation Army, Christian and Missionary Alliance, Lutheran and Methodist volunteers.

Summary of emergency relief supplies provided by CWS:

8,000 blankets;	11,000 lbs clothing;	50,000 doses antibiotics;
21,000 doses tetanus toxoid;	6,000 needles;	960,000 water
purification tablets;	209 tents;	200 heavy duty wheelbarrows;
600 round point shovels;	700 picks;	200 5-foot crowbars;
100 sledgehammers;	25 rock chisels;	100,000 lbs soybean food;
1 jeep;	1,600 4x8 sheets asbestos and aluminum roofing;	
9 ham radios;	4,400 health kits.	Value.....\$252,205
Cash for local purchases and CWS expenses.....		16,922

The following US church groups contributed through Church World Service:

<u>Lutheran World Relief</u> - Authorized up to \$255,000 for emergency relief and rehabilitation. At time report was written LWR had contributed \$55,000 in cash and 13,500 blankets valued at \$40,500 for a total of.....	95,500
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<u>Assemblies of God</u> - cash.....	5,900
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Mennonite Central Committee - sent six volunteer relief workers for six to twelve weeks to work on reconstruction in the village of Cajacay.

<u>Spanish Presbyterian Brooklyn</u> - cash.....	931
	<u>\$371,458</u>

CWS office in Peru received the following cash contributions from overseas sources to be used in its emergency relief and rehabilitation program. However, credit for these donations is included

under Other Nations and has not been added to the totals under CWS:

World Council of Churches -	550,000
War on Want	4,800
Lutheran-Helsinki	7,200
Christian Aid, Great Britain	36,000

CWS staff at the peak of emergency relief operations numbered over 80 including volunteers from several European and Latin American countries. With the phasing out of the emergency program to the rehabilitation phase, the staff was reduced to 30.

Rehabilitation and Reconstruction

CWS received 3,354 tons of USG P. L. 480 nonfat dry milk, flour, vegetable oil, cornmeal, bulgur wheat and corn-soya-milk mix for its food-for-work rehabilitation projects in the Province of Aija and the Huarmey Valley. This was the area assigned to CWS by the Government of Peru. It extends 70 miles from sea level at Huarmey to 9,000 feet east of Aija and has a population of about 60,000. At its greatest width the area is 50 miles wide. Except for Huarmey and the uninhabited desert in the southwestern part, the region is composed of mountain villages of Quecha Indians. The area suffered extensive damage to houses, buildings, irrigation systems, roads and trails. CWS reported the Indians in this area demonstrated community cohesion by organizing volunteer working parties which received food-for-work assistance.

In working with the Quechuas, CWS placed top priority on restoration of irrigation systems, including repairing ditches, dams, reservoirs. Over 500 sacks of concrete were purchased in Peru by CWS to be utilized for this work, as well as plastic pipe. Villagers showed great ingenuity in improvising temporary shelter but were in need of corrugated steel or aluminum roofing. CWS purchased 19,395 sheets of roofing in Peru, constructed low cost houses on a demonstration basis and provided distribution facilities for roofing materials. Other CWS projects were clearing and reconstruction of roads, schools, water and sanitary facilities. In all projects, villagers were involved in setting project priorities and in decision making. Both local and national Peruvian governmental agencies were encouraged to assume major responsibilities in the rehabilitation efforts.

Projects completed or underway in the area assigned to CWS:

In the Huarmey Area including the villages of Buenos Aires, Bolognese, Dos de Mayo, Santo Domingo, La Independencia:
Schools - cement and roofing provided for 50 provisional schoolrooms
Irrigation ditches - rebuild major ditch for one valley.
Public Latrine - several completed consisting of two toilets, one shower, several wash basins.
Clean-up Crews - 19 sectors of Huarmey to remove rubble

Buenos Aires, Bolognese, Dos de Mayo, Santo Domingo, La Independencia, Manache, Port of Culebras, Coneplejo Educativo, Marisca Castilla, Huamba: Feeding stations set up for mother-child feeding.

Raypa area in the districts of Huanchay, Pampas Grandes and Coris: Food-for-work projects for school, irrigation canal rebuilding, opening roads and trails, clearing away rubble in 20 towns.

Direct feeding programs were limited to schools, mother-child care centers and to families where there was no man in the household.

Future CWS plans for the area included upgrading crop production by the introduction of improved seed and better cultural practices; projects to upgrade livestock with increased emphasis on poultry production; forestry development; credit and producer cooperative activities; assignment of public health workers; provision of health and education materials and publications.

CWS indicated it would support a field team of experts for a three year period with emphasis on long range economic development. Its projected minimum budget for Peru earthquake relief and rehabilitation through 1973 was placed at \$1,035,000.

DIRECT RELIEF FOUNDATION

Direct Relief Foundation sent 30,000 pounds of medical supplies for which transportation was arranged by the American Institute for Free Labor Development. Value.....\$275,000

GOODWILL INDUSTRIES OF AMERICA

Collected used orthopedic applicances for shipment to Peru. No value given.

FOSTER PARENTS PLAN

This US registered voluntary agency has an office in Chimbote where they had 3,400 Peruvian families enrolled to receive their help. The FPP main office was severely damaged in the earthquake. Incomplete statistics on the fate of some of their people are: 6 foster children killed; 35 injured; 54 members of the Plan families killed; 275 injured. All of the member families were left without housing. Foster Parents allotted funds to aid these families and for other emergency purposes in the amount of \$20,000.

Self-help projects sponsored by the Plan were also utilized to aid the earthquake victims. It was planned to use the Savings Cooperative, with assets of \$30,000, for small loans to participating families augmented by a Special Service Funding to assist those families not members. The brick-making cooperative operated by a small group of Plan fathers was

expanded and Foster Parents Plan provided a kiln for making tile from clay. Most of the Plan families enrolled in cleanup work under the food-for-work program. Foster Parents anticipated cooperating with the Chimbote community in planning for provisional housing, schools and a hospital.

INTER-AMERICAN PRESS ASSOCIATION

This group is raising funds which will be sent to the Peruvian Indians via member newspapers in Peru. Information was not available on funds collected to date.

PAN AMERICAN DEVELOPMENT FOUNDATION

PADF assisted in the establishment of the Peruvian Association for Development, a private sector technical and financial resource agency, which is working on rehabilitation in the Callejon de Huaylas. The Peruvian Association for Development received and supervised distribution of materials and financial donations from US private agencies and assured appropriate utilization.

The Pan American Development Foundation provided basic farm implements and tools valued at.....\$ 50,000
It also sent 5,000 doses of typhoid vaccine.

PARTNERS OF THE ALLIANCE & JUNIOR CHAMBERS OF COMMERCE

Among the first to heed the appeal from Peru was the private sector organization known as the Partners of the Alliance. This organization consists of 40 states in the U. S. with partner areas in Latin America. The State of Texas and Peru is one of the oldest partnerships in this organization. Within 18 hours after the earthquake, the Texas Partners Executive Committee initiated an emergency plan. At the same time, the National Association in Washington requested pledges of aid from the other Partner Committees.

The first urgently needed equipment sent by the Texas Partners was 318 emergency generators airlifted together with four tons of medical supplies from Los Angeles on June 12. These were followed by several other shipments by the Texas Partners and 34 other State Partner Committees consisting of 538, 640 pounds of clothing and blankets, 99,491 pounds of foodstuffs, 24,485 pounds of pharmaceuticals, 4,250 pounds of hospital equipment, 15,900 pounds of generators and 3,800 pounds of tents and cots with an estimated value of.....\$905,510
Transportation costs for Andean Relief Expedition..... 2,650
Cash donation for local purchase of relief supplies, construction materials, 7 CINVA-RAM block making machines and tools totaling..... 23,346
\$931,506



Partner officials in Boone, Iowa, ready shipment of relief supplies for the earthquake victims.

The Partners and Jaycees also engaged in a cooperative effort to collect money and relief supplies to maintain a steady flow of clothing, food, blankets, medicines, medical equipment, tools, roofing for emergency housing, other building materials, school desks and earth-moving equipment. Jaycee chapters throughout the US participated in this drive, which was conducted by eight regional Jaycee leaders appointed specifically for the Peruvian relief effort.

The Partners and Jaycees planned long-range assistance with major construction projects in Caraz and Huarmey. In Huarmey they provided a prefabricated building to serve as a Municipal Services Building. The building was dedicated on September 5 by the Mayor of Lima, who is a member of the Partners. Estimated value of the building was \$1,200. Their plans included the design for a marketplace and help in rebuilding it, continued flow of relief supplies from the US for distribution through Church World Service food-for-work projects in Huarmey and surrounding towns and mountain villages. They also cooperated with the Peru Red Cross and Municipal Committee for Reconstruction.

In Caraz, Partners/Jaycees worked with the Peru Government Committee for Rehabilitation and Reconstruction and the local Municipal Committee for Reconstruction (particularly Father Thomas Samway, who was an influential member of the committee), and with Peace Corps Engineer Volunteer David Healey. The CINVA-RAM machines donated by the Partners to Caraz had a capability of producing about 600 cement-stabilized adobe building blocks per day. These were to be used by a Peruvian non-profit housing cooperative, formed as a result of a consultation by a Partner's

representative with town authorities to whom the Partners promised continued assistance.

PEOPLE TO PEOPLE HEALTH FOUNDATION (PROJECT HOPE)

A Project Hope medical unit which was in Trujillo at the time of the earthquake proceeded immediately to Chimbote to assist in medical care. There was a Hope medical team at that time at Cartagena, Colombia, and People to People Health Foundation indicated they could send the team to Peru within 24 hours if needed. The American Embassy was advised by the Peru Minister of Health on June 3 that he could not use the team immediately since the MOH was unable to provide the necessary local support for the team but there was indication it would be called forward later as soon as sufficient communications and logistic services could be restored.

On June 12, the Government of Peru gave approval for the team to come ahead and agreed to provide backup support. Eleven members of the team arrived the same day bringing with them 5,000 pounds of supplies. On June 15, the Hope team from Colombia was assigned to work in the Aija area. They also assisted in Huaraz. AID agreed to pay air transportation costs of an initial donation of medical supplies and of the Hope medical team.

Total reported contributions by Project Hope to the earthquake relief operations consisted of the services of 19 medical personnel and over 8 tons of medical supplies valued at.....\$ 225,900



*Project HOPE field hospital in school playground of Aija
(Project coordinated with Pharmaceutical Manufacturers Association)*

PERUVIAN DEVELOPMENT FOUNDATION

Sent two staff members to Peru to survey damage. This Foundation donated typhoid medicine and cash for care of orphans.....\$ 1,500

PERU EARTHQUAKE RELIEF COMMITTEE

This Committee gave direct assistance to rural Indian communities with emphasis on (1) provision of tools, seeds and agricultural implements; and (2) seed grants for long-term rehabilitation; and (3) money for the support of community cooperative institutions, such as credit unions.

It planned to channel funds through the Comite Pro Desarrollo de Pueblos Damnificados in Peru and to focus its efforts mainly in the Department of Ancash, particularly in the Callejon de Huaylas. PERC Chapters were set up in the following cities and or states: Arizona, Buffalo, California, Chicago, Florida, Indiana, Kentucky, Massachusetts, New Jersey, New York City, New York State, Pennsylvania, Puerto Rico, Wisconsin. Funds raised at the time this report was written..... \$38,000

DR. I. DRUMMOND RENNIE, PRIVATE VOLUNTEER

Dr. Rennie was familiar with the devastated area, especially the Callejon de Huaylas. He offered his assistance and that of a team of orthopedic surgeons, general surgeons, anesthetists and physicians, if needed. However, he felt it would be beneficial if his services were accepted if he first came to Peru to determine the need for this type of aid, his reason being: *It was clear to me that such a team would be useless medically and would only embarrass the US relief effort unless there was guaranteed transport from Lima to the Callejon and my knowledge of the various land routes and air possibilities made this unlikely. It was also important that any team, to be efficient, should not intrude on the work of any other group. In addition, I was aware that there was a great number of Peruvian doctors in Lima, and I felt then, as I do now, that as far as possible the personnel involved should be Peruvian.*

The Government of Peru was quick to accept Dr. Rennie's services because of his special skills and prior experience in the Callejon de Huaylas. Logistic support was given to him by USAID. There was no need for the team to follow him to Peru.

Dr. Rennie was taken to Anta on June 10 by U. S. AID Field Disaster Relief Coordinator, Carson O. Crocker. There was almost no information about the conditions in the innumerable villages and hamlets set in the side valleys of the Callejon and on the mountain sides. These villages cannot be seen from the valley floor and had to be approached by foot. Dr. Rennie enlisted the help of three Peruvian climbers, previously

known to him, and their jeep. His first visits were to the side valley above Chupluy between Mancos and Carhuaz. The following is quoted from Dr. Rennie's report: *Even though Chupluy is half a mile from the road, it was somewhat cut off as the approach involved sliding down a steel cable across the Rio Santa, and the gorge above Chupluy leading to Casapara is hard to negotiate.*



Dr. Rennie treats child injured in the earthquake

Dr. Rennie examined most of the population of three villages and by talking with the Alcalde of each village he visited was able to establish crude estimates of damage in the valley (a total of 8 villages was visited in this area). Population of these villages was between four and six thousand. In these 8 villages he found 15 dead and 3 fracture cases resulting from the earthquake. Most of the buildings were completely destroyed but Dr. Rennie said that human damage was slight, probably because most of the people were able to get outside. He did, however, observe extensive bruising, quite a lot of diarrhea and bronchitis and many patients suffered from anxiety and nervousness. He inoculated several hundred men, women and children. Dr. Rennie reported the crops were intact; the water supply as dubious as ever; sheep, goats and cattle were in evidence in each village; men were observed going up and down the broken trails carrying food; there was no evidence of starvation; rebuilding had not started; many people were living in structures made of grass, branches and cardboard; many were sleeping out but he reported this is something the

Quechua Indian is used to doing.

On June 15, Dr. Rennie returned to Anta at the request of Mr. Crocker to supervise a medical plan that Dr. Rennie had previously proposed. The plan was to send in medical and paramedical personnel by helicopter to unvisited villages high in the hills to assess damage and determine needs, to treat sick and wounded victims and to evacuate the very sick, in an effort to prevent mass migration down into the severely damaged towns such as Huaraz, Carhuas and Caraz.

Dr. Rennie recruited 42 volunteers from Huaraz, Monterrey, Anta, and Ranrahirca and two helicopters were made available for their use. Medical kits were provided by a representative of the American Red Cross, made up from supplies stocked in Anta. Teams of volunteers were dropped by helicopters into these remote villages. The entire area was divided into national areas--the US being made responsible for the northern area (north of Huaylas--the highest, farthest and most difficult. Each nation (Brazil, France, US) was requested to finish its area as quickly as possible in its own way, reporting back daily. Helicopter pilots were allowed to select the precise sequence of villages visited.

By the night of June 18, Dr. Rennie reported to General Freyre of Peru that (1) there was no large medical problem that had not existed before; (2) that the problem was assessment of damage and needs, not diagnosis and drugs. Dr. Rennie and his teams visited 38 villages or towns, determined that population of the area was 48,687; that 233 people had been killed; 174 suffered fracture injuries; 18 had to be evacuated by helicopter for further treatment.

Dr. Rennie's general assessment follows:

Low loss of life and injury due to smallness of the villages and previous tremor which caused people to run outside.
No epidemics - 6 cases of measles only, all at La Pampa.
House destruction severe, often 100%. Even burro paths were cut.
No starvation. People lacked certain commodities and were in need of electricity, communications, shelter and blankets.
People in every village had formed Emergency Committees. They had not panicked but everywhere there was shock and nervousness. He expressed the opinion that Padre Pepe Declin, a volunteer, probably did more good by holding Mass in Llapo than anyone else did with aspirin and cough medicine.
Many villages were trying to clear their approach roads using shovels; that there was danger crops would be neglected for this.
There was great need for roofing material. Tents while fine for valley towns are no good in mountain villages. Corrugated iron is unaesthetic but essential.
There were few orphans and these should not be evacuated. The peasant tradition is to look after them in the villages.
Dr. Rennie's teams could not judge market or store conditions because inter-village communications were too poor.

Dr. Rennie concluded a report on his activities with the following: *I emphasize that my mission only covered high and remote areas. None of this report deals with the Huaraz-Yungay towns, low in the valley. The command at Anta impressed me considerably and relations through Mr. Crocker with General Freyre were very cordial, simple and efficient. I was helped very much by Col. Sibert and Col. Beightler (US Military) and feel that the U. S. effort is very considerable, is directed to the right targets, is humane and will win the USA a great many friends.*

SALVATION ARMY

Capt. Henry Booth Taramasco, District Officer for Peru, immediately offered the Army's services and was a member of one of the first exploratory teams to enter the stricken area from Lima. He arrived six hours after the earthquake struck. A few days later a team of Salvation Army officers arrived from Chile to work on earthquake relief. Brig. Reuben Neusch, General Secretary for the South America West Territory also went to the disaster area. They were soon followed by a team of five from the United States. In a very short time, the teams were distributing food, clothing, blankets, medical aid in the stricken areas. Subsequently five other American officers were added to the relief forces and the Salvation Army combined relief teams from Chile, Peru and the United States eventually numbered over 50 people.

One of the US team members was a communications expert. His assignment was to establish essential communications by short-wave radio between Lima and the Salvation Army workers in the field and also intercommunication between field workers at different locations.

Salvation Army units throughout the United States gathered together and shipped 909 tons of clothing, blankets, tents, dried and canned foods, medical and other supplies with a value of over.....\$500,000

Under the supervision of Commissioner Ray Gearing from the US, four teams were dispatched from Lima to find the areas of greatest need in a mountainous region completely devoid of adequate roads, telephones or radio communications. Some of the teams journeyed far north by truck and by foot to minister to hundreds of hapless victims, bringing them blankets, preparing hot meals, and dispensing medicines. One medical team climbed to altitudes of 15,000 feet. They carried large bags containing supplies, made daily treks from pueblo to pueblo seeking out patients too sick to be moved or unaccustomed to seeking medical assistance outside their own villages.

The Salvation Army reported that after the initial evacuation by helicopter of the seriously wounded to the "Guam", local hospitals or to Lima, the most common medical problems encountered were respiratory infections probably related to exposure during the cold nights. However, they also reported seeing a number of fractures, burns, ulcers, scalp and extremity lacerations, eye infections, intestinal and other types of illnesses. The SA teams established medical base camps at Malvia and the demolished

resort town of Barbarcay. Dr. Rader of the SA team, in cooperation with another relief agency, helped to set up a 22-tent field hospital supply depot and community kitchen on a soccer field adjacent to Barbarcay.

One of the first areas visited by the SA teams was Pariacoto. Here they established their first base of operation and during the first week of their stay formed several work commissions which cleared the tilled land of rocks, opened up irrigation systems, cleared roads of debris and rubble, supplied food to road engineers and their crews, and organized workmen to clear rubble and debris from schools. They stayed two weeks during which time they visited and distributed 13 tons of supplies to 20 towns and villages reaching 7,653 people.

In general, the SA medical and feeding teams worked in cooperation with Church World Service and Seventh-Day Adventist Welfare Service groups but also obtained help from other agencies and groups. They reported receiving food, clothing, medicines, plastic dishes and spoons from the Salvation Army in Lima; medicine, blankets and food from the Norwegian Medical Team; medicine from Catholic University students; blankets, fruits and vegetables from the Junta de Asistencia Nacional; medicine from the University of Molina; tents, blankets and food from Church World Service; blankets, clothing and food from the Italian Community of Lima.

Dr. Rader stressed that the Salvation Army teams had ministered to the Quechua-speaking Indians in the center of the earthquake area, because he had noted some reports in the United States which indicated the Indians were being neglected. Other places receiving SA assistance included Yungay and Huarmey. Dr. Rader lost 15 pounds during his two weeks in Peru. All of the SA team members were affected by the high altitudes with accompanying lack of oxygen, and by a climate that veered from 80 degrees in the daytime to 30 degrees at night, with strong winds.

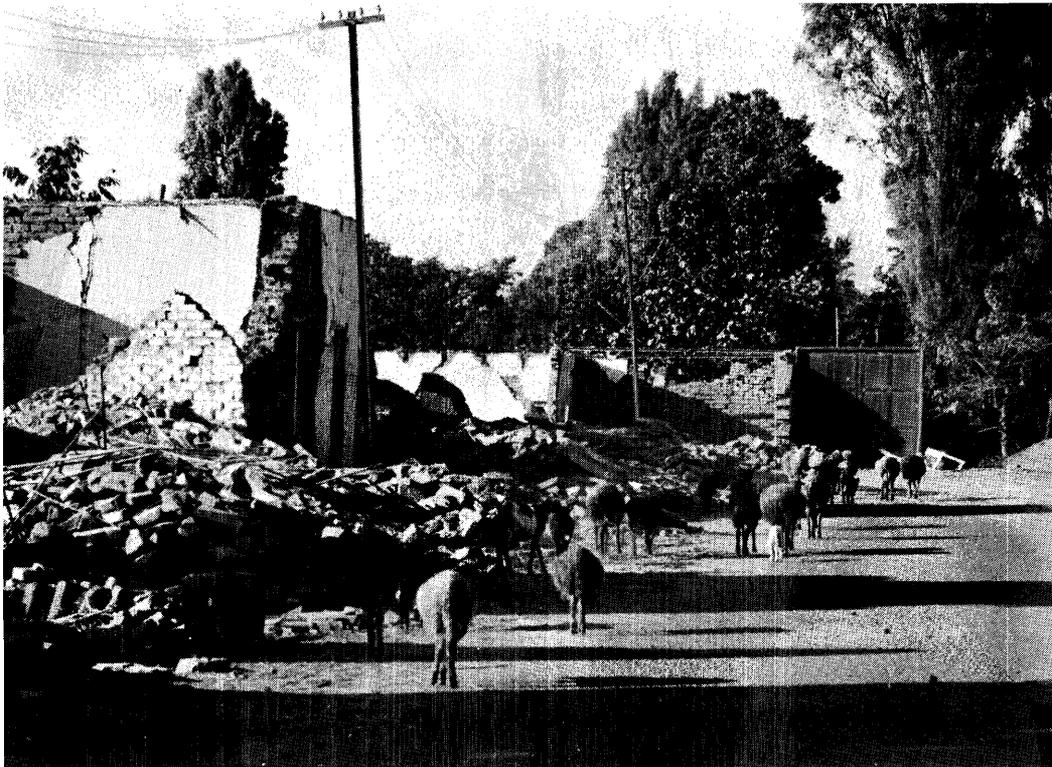
One Salvation Army worker commented that the destruction she saw in Peru was worse than anything she had seen in Vietnam and that it was unbelievable it had all happened in a matter of minutes

Salvation Army teams worked at Huarmey, Malvas and Cajachary also.

SEVENTH DAY ADVENTIST WELFARE SERVICE

The Minister of Health of Peru assigned to the Seventh Day Adventist Welfare Service for food distribution and other relief work the area between the western slope of the Cordillera Negra on the east and the Pacific Ocean on the west, from the Nepena Valley on the north to Puerto de Culebras on the south. This includes the city of Casma, in which an estimated 98% of the homes were destroyed.

Soon after the earthquake, SAWS representatives set up emergency kitchens in the main squares of towns in the area assigned to feed the confused survivors. After ten days, a new relief program was instituted in which



Destruction in Casma

12 kilos of food were given to those who worked for two days in the rehabilitation program, and which was distributed also to widows, orphans, the sick and the elderly. From June 2 to August 13, SAWS distributed 1,594,965 pounds of USG P. L. 480 foods. It's feeding program was for 100,000 persons on a daily basis for a period of three to four months.

Emergency supplies sent by SAWS from the US or purchased locally in Peru included: 315 new tents; 2,500 blankets; 2,500 bales of clothing; 3 jeeps; 1 large truck; tools; 2 trucks; fuel for their transport plane of about \$4,000 a month, valued at approximately.....\$388,200

Rehabilitation/Reconstruction

SAWS appointed committees of five members each in the various towns to give priority to rehabilitation measures such as cleaning and repairing the irrigation ditches to avoid another emergency in the loss of harvests, repairing of roads, reconstructing schools, digging wells, etc. Volunteers were paid 12 kilos of food and sufficient clothing for the family.

Projects completed or underway when this report was written:

- 200 kilometers of irrigation ditches and canals
- 12 towns provided with potable water
- 2 wells dug and in use
- 70 schools cleared and provisional school rooms erected
- 25 miles of road cleared and rebuilt

- 1 harvest project
- 100 toilets dug in Casma to improve sanitation and prevent disease
- 6 city sewers repaired
- 2 bridges built
- 100 miles of high mountain trails repaired
- 24 homes for widows rebuilt
- 14 homes for teachers rebuilt
- 3 ovens built for baking bread for schools
- 12 ovens under construction
- 15 schools serving lunch programs
- 5 towns electricity restored.

A SAWS representative reported to USAID: *I think without one exception that all people are being served who are in need in our area.*

In addition, SAWS, in cooperation with the Government of Peru, planned a colonization project for which it will provide food and some technical services. The first contingent of 58 families (150 people) from the earthquake area left August 21 for resettlement in an underdeveloped jungle area about 40 miles north of Tingo Maria. A second group of 60 families will be resettled in the same area in May of 1971. Eventually SAWS hopes to assist in resettling 2,000 families.

SOROPTIMIST CLUB OF WASHINGTON, D. C.

Squibb-Beechnut Company donated 11,950 cases of baby food through the Soroptimist Club, which was shipped on the USS "Walworth County" out of Miami on July 13. The food was valued at.....\$ 75,000

TOWN AFFILIATION ASSOCIATION OF THE UNITED STATES, INC.

Many US cities, as members of this association, maintain affiliations with cities in other nations. Seven "sister city" affiliations exist between cities in the US and cities in Peru. Of these, three were active in raising funds for emergency assistance to the earthquake victims but amounts of money raised were not available. These sister cities are Pensacola, Florida (Chimbote); Santa Barbara, California (Cusco); Sioux City, Iowa (Callao).

WORLD RELIEF COMMISSION, INC.

The World Relief Commission worked through the Evangelical National Council of Churches of Peru in Cajacay. They donated money for the purchase of clothing, blankets, medicines, roofing and tools which at the time this report was written totaled.....\$ 25,000 They planned to continue their assistance focusing on shelter materials.

WORLD MEDICAL RELIEF

The World Medical Relief sent two shipments of medical supplies on May 11 and May 27 to Panama for the Army Civic Action Program. When news of the earthquake was received, these were diverted to Peru and WMR medicines and medical supplies were among the first to arrive in Peru.

WMR then packed and made ready for shipment 75,583 pounds of additional medicines located in Detroit, Michigan. They had made no provision for transportation of these supplies. Because certain medicines were still needed in the early days following the earthquake AID agreed to charter an aircraft and pay transportation to Panama. There the contents of the shipment were sorted and listed. The Government of Peru Ministry of Health was notified through the American Embassy what items and quantities were available. The MOH then advised what items it considered priority. These were airlifted from Panama to Peru June 22. The balance was ordered shipped from Panama to Callao, Peru, aboard Prudential Grace Lines "Santa Mariana", arriving in Peru sometime early in July. Costs for this surface shipment were also paid by AID.

Supplies sent by WMR included antibiotics, penicillin, streptomycin, water purifier and disinfectant, baby food, vitamins, I.V. solutions and administration sets, first aid kits, needles, syringes, blankets, surgeons' gloves, crutches, canes, adhesive tape, disposable draping sheets, gowns and towels, bandages, disposable diapers, splints, leg and foot braces, walkers, plaster of paris, soap, food supplements, and plastic dishes.

Summary of these shipments with values as reported by World Medical Relief:

May 11 and May 27 - 17,660 pounds.....	\$590,220.54
June 10 to Panama - 75,583 pounds.....	<u>982,004.45</u>
	\$1,572,225

WORLD VISION RELIEF ORGANIZATION, INC.

World Vision donated hygiene and sewing kits and made cash contributions valued at..... \$ 6,300

YMCA

Obtained donations in response to an appeal for Peru earthquake relief from YMCAs across the country of..... \$1,000
The YMCA expected to make further contributions.

SUPPLIES COLLECTED IN SEVERAL CITIES IN THE US FROM PRIVATE SOURCES

A number of voluntary agencies, private groups and citizens began to collect clothing, blankets, medicines, other relief supplies for the

earthquake victims, as news reports of the extent of the disaster appeared in the US Press. Some of these groups themselves funded and arranged for transportation of these supplies. Others sought assistance from registered voluntary agencies with programs in Peru and from the U. S. Government.

It is not the policy of the U. S. Government to pay transportation costs for donated relief supplies unless they are for priority items specifically needed and approved by the government of the country concerned, through the American Embassy. However, because of the efforts made by so many people in our country, the Agency for International Development Disaster Relief Coordinator used many ingenious ways to get these things to Peru. In several instances working arrangements were made with Catholic Relief Services so that additional disaster relief funds could meet the transportation costs. In other situations, Catholic Relief Services and Salvation Army volunteers worked together to get items packed for shipment. A major assist came from the Organization of American States when it set up surface shipping fund of \$50,000 and sent Mr. Charles Miller to Miami and Mr. Louis Fyfe to Los Angeles to make sea freight arrangements.

AID/DRC gave backstopping to these officers and in Miami coordinated the shipment through Catholic Relief Services and on the LST Walworth County moving from Norfolk to Callao, Peru, with the Navy's Operation Handclasp sponsorship. Special praise is singled out for Mr. Louis Fyfe and the outstanding work he did in the Los Angeles area. In collaboration with Peruvian Consul MacLean, all shipping cartons were accurately marked to the Junta de Asistencia Nacional (JAN) and arrangements made with the shipping lines for free space available.

Much of these supplies, while still needed and especially the clothing, could go by surface rather than air. It was important to keep supplies in the pipeline but scheduled ocean deliveries could satisfy this need.

Following is a list of cities where supplies were collected with values as reported to AID/DRC:

Miami - 304 tons valued at.....	\$600,000
(Shipping handled by OAS, Salvation Army, CRS, AID/DRC)	
Los Angeles - 196 tons valued at.....	400,000
(Shipping and packing handled by some of the collecting groups, former Peace Corps volunteers, Salvation Army and OAS)	
San Francisco - 80 tons valued at.....	160,000
(Sponsors of drive made own arrangements packing/shipping)	
Seattle, Portland, Milwaukee, Houston - Information was incomplete except that 10 tons went via ocean freight from Portland, Oregon, free of charge. Value.....	20,000
	<u>\$1,180,000</u>



LST "Walworth County" unloading disaster supplies at Callao

CAPITAL CONTROLS, INC.

Capital Controls, Inc. donated a portable chlorinator. It had capacity to make potable water from most any source and weighed only 48 pounds. AID paid for air shipment to USAID/Lima where the AID Engineer arranged for emergency use of the chlorinator at a village with operation and testing by a local university. Value.....\$ 1,400

LECHE GLORIA/CARNATION COMPANY

Leche Gloria, the Peruvian firm working with the Carnation Company in the United States, made immediate local response of emergency supplies of milk and distribution of containers to replace those destroyed in the earthquake. No value was placed on this donation of supplies and services because all concerned in Peru and the United States felt they were doing what comes naturally when disaster strikes.

Total Reported Value from US Private Sector.....\$10,355,446

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

The following covers assistance given to the earthquake victims by governments, Red Cross societies and international organizations and was obtained from a variety of sources. It does not pretend to be a complete list. The majority of the values were taken from source material but where no values were given, AID/DRC attempted to place a value based on the type of material and quantities given.

Algeria - cash		\$ 2,320
Argentina Red Cross - cash, clothing, food, medicine	\$ 39,760	
Government - cash, tents, blankets, hospital plane, 5 C-130's brought supplies, 3 Fokher F-27 planes and 80 men. Planes were in operation for 130 flying hours, 83 in the disaster zone. They evacuated 184 persons, 22 wounded. Four men died in a crash of one of the planes.	<u>\$1,000,000</u>	1,039,760
Australia Red Cross & Voluntary Aid Organizations	100,000	
Government - cash and 500 tons of flour	<u>70,000</u>	170,000
Austria Red Cross - medicines, plasma	2,110	
Government - 2 million soles for disaster supplies	<u>45,780</u>	47,890
Belgium Red Cross - 2,003 blankets, antibiotics, food, household articles & 27 tons corrugated iron	11,860	
Government - 564 sleeping bags, 50 tents, 2,500 blankets, 4 station wagons, other supplies, cash	300,000	
Belgium Community in Lima - cash	<u>11,460</u>	323,320
Bolivia Red Cross & Government - 500 blankets, food, antibiotics, medical team, plasma, established blood bank. Estimate possible only on blankets	1,500*	
Cash	<u>500</u>	2,000*
Brazil Red Cross & Government - vaccines, vitamins, clothing, blood, two helicopters, use of DC-3 and C-130's. Helicopters made 45 sorties, evacuated 400 wounded, 600 homeless and Brazil planes carried 30 tons, food, blankets, medicines in disaster area. Value estimated by AID/DRC at least		100,000
Bulgaria - 27 cases medicaments, 10 bales bedding, blankets		20,000
Burma - cash grant		410

Canada Red Cross - cash grants	\$ 26,360	
23 cases children's clothing, quilts, layettes, powdered eggs, concentrated apple juice	17,970	
Jr. Red Cross - cash	4,800	
Private Contributions - 11,000 pounds clothing, 17 cases blankets, 1-ton medicine. Value estimated by AID/DRC about	15,000	
Government - 5 Caribou aircraft, 1 C-130 with two support aircraft, 7 generators w/100-KW capacity and 12 tech- nicians, x-ray units, disaster supplies and cash donations	\$1,025,000	
3,000 tons wheat flour	<u>260,000</u>	\$1,349,130
 Ceylon - 200 pieces each men and women's clothing		1,870
 Chile Red Cross - 300 blankets, antibiotics, anal- gesics, blood transfusion material, testing sera, drugs (also sent nurses)	3,250	
330 prefabricated buildings, value estimated by AID/DRC	165,000	
Chilean Confederation of Workers to Peru Workers	13,850	
Government - 10,000 blankets, 30,000 pieces clothing, 250 family pkgs, wheat, sugar, salt, lentils, rice, tea, coffee, 3,000 kilograms medicines. Value estimated by AID/DRC at least	100,000	
Also sent refrigerated ship with 535,000 kilograms frozen chicken, value estimated by AID/DRC about	300,000	
Money collected for reconstruction 25 million soles, equivalent	<u>573,000</u>	\$1,155,100
(of which \$250,000 to be used to finance construction of Civic Center at Casma, plans for which developed by Chilean technicians.		
Chile Government and Red Cross provided 90 medical personnel, 30 personnel for Andean relief mission and 80 others in earthquake relief efforts. The Chilean field hospital treated 4,023 wounded. Chile also donated a portable seismological station. Supplies, equipment donated by Chile Government and Red Cross totaled 1,840 tons.		

Nationalist China Red Cross - cash, clothes, medicine, food	\$ 52,540	
Government - cash	50,000	
Private collections from Chinese Embassy and Community in Peru (about 1.5 million soles)	<u>35,300</u>	\$ 137,840
Communist China - cash		600,000
Cuba - 14 relief flights with supplies, boatload of plastic shoes and 50 mobile kitchens. Sent 40-member medical group. 100,000 Cubans donated blood. Value estimated by AID/DRC about		500,000
Denmark Red Cross - antibiotics, medicaments, syringes, cash	28,720 13,500	
Government - antibiotics, equipment for emergency power, meat, unable estimate value	*	
cash	<u>13,500</u>	55,720*
Dominican Republic - cash	9,000	
clothing, blankets, food, blood, vaccine	*	9,000*
Ecuador Red Cross - clothing, blankets, food, medicaments, cash		52,630
El Salvador - 139 cases medicaments, 7 cases clothing		8,030
Ethiopia - cash grant		2,800
Finland - medicines, concentrated food, rubber boots, 275 tents, 1,040 blankets, cash		72,760
France Red Cross - medicines, milk powder, clothing, food, condensed milk, canned meat, 1,100 blankets, 153 prefabricated houses	\$149,760	
Government - 4 military transports and 3 Alouette helicopters, military field hospital, doctors and nurses, cash	240,000	
French Colony in Peru - money and supplies	<u>45,000</u>	434,760
Germany Democratic Republic - medicaments, 50 tents, 2,523 blankets, clothing		83,320
Germany Federal Republic Red Cross - medicaments, 500 igloos (prefabricated round houses)	181,860	
Government - cash, medicines, hospital tent, cash	<u>900,000</u>	1,081,860
Great Britain Government, Red Cross, Christian Aid, OXFAM, Save the Children Fund, War on Want, British Community Fund Collections, other private assistance: 723 tents, 7,350 blankets, medicines, anti- biotics, cooking utensils, 14 radio trans- mitters, water purif. equip., surgical equip., clothing, 3 prefab 7-room school buildings		730,000

Guatemala - cash, medicaments, blankets, clothes		\$ 9,030
Haiti - TAB vaccine, anti-tetanus vaccine		*
Honduras - antibiotics		*
Hungary Red Cross - medicaments and vitamins	\$11,620	
Government - 135 prefab houses and 200-bed field hospital for Chimbote (also technical and other personnel)	<u>133,000</u>	144,620
Iceland Red Cross - cash	460	
Government - cash	<u>1,150</u>	1,610
India Red Cross - woolen clothing	660	
Government - blankets and relief supplies	<u>13,370</u>	14,030
Ireland - cash		7,460
Italy Red Cross and Government - medicines, 400 blankets, 50 tons clothing, blankets, medicines, value estimated by DRC about	39,920	
Cash for child care & block making machines	100,000	
Private contributions from Italians	25,000	
Alitalia Airlines - free airlift and cash donation	<u>6,880</u>	180,600
Japan Red Cross - cash grants, 2,000 blankets, medicines, clothing, other relief supplies	227,420	
495 tons corrugated iron, value estimated by AID/DRC about \$200 per ton	99,000	
Government - 3,300 tons rice	574,440	
Private contributions, including industrial firms, businessmen, world fair visitors, political party and private individuals	<u>147,690</u>	1,048,550
Korea Democratic Republic - cash and clothing		*
Korea Republic - cash		10,000
Kuwait - cash		1,390
Lebanon - cash		110
Liechtenstein - cash		6,970
Luxemburg - cash		3,020
Mexico - cash, food, clothing, medicines		2,760

Netherlands Red Cross - cash (\$18,600), 76,150 blankets, medicines, dried blood plasma, 650 hospital beds, hospital equipment	\$284,750	
Government - 1,337,000 guilders, equivalent	371,340	
1,035 tons skimmed milk powder	275,350	
cash to UNICEF for reconstruction	<u>105,000</u>	\$1,036,440
New Zealand - cash (\$6,000), 24 prefabricated huts (est. \$500 each), 10 tons roofing (est. \$200/ton), 38 cases clothing		20,240
Nigeria - 10,000 Nigerian pounds, equivalent		27,800
Nicaragua - medicaments and clothing		2,890
Norway - blankets, clothing, medicaments, medical unit, 21 relief personnel		183,400
Panama Red Cross and Government - medicaments, vaccine, clothing, unable estimate value	*	
70,500 pounds rice (estimated by DRC)	4,200	
cash	4,000	
cash to OAS for reconstruction	<u>2,000</u>	10,200*
Philippines - cash grant		500
Poland - blankets, medicines, antibiotics, cash		18,350
Portugal - cash, medicines, blankets, wood planks, 100 tons dry milk, clothing, wine, 44 tons food	100,000	
Private cash contributions	<u>10,000</u>	110,000
Romania - 1,000 blankets (est. \$3 each) and clothing		3,000*
San Marino - cash		1,600
San Salvador - clothes and medicines		2,000
South Africa - cash (\$4,260), 9 tons food, 1,500 blankets, medical supplies. Estimated by AID/DRC (Also sent 4 doctors with 6 assistants)		10,000
Spain Government, Red Cross and Private Contributions including Embassy and Spanish Community in Peru		
Cash, plasma, antibiotics, vitamins, anes- thetics, blankets, cloth, medicines, clothing, shoes, other. Value was reported at 20,190,702 soles, equivalent about		463,000

Sweden Red Cross - cash (\$16,380), clothing, 100 large tents, blankets	\$ 282,090	
Red Cross, Lutherhelp, Svalorna - 5 tons medicaments and food	52,670	
Swedish Community in Peru - cash for reconstruction	10,000	
Government - \$100,000 cash to UNICEF for Peru, emergency force of 65 technicians and engineers, other assistance	<u>239,240</u>	584,000
Switzerland Red Cross and Private Donations - cash, blood substitute, blood testing sera, 60 tents, 6,000 blankets, other supplies valued at 10 million soles, equivalent	229,350	
Swedish firms in Peru - cash, medicines, supplies to JAN valued at 8 million soles	183,400	
Government - cash	<u>100,000</u>	512,750
Thailand - cash		22,220
Trinidad and Tobago - cash (\$21,700), medicaments, canned food, clothing, blankets, camp beds		48,760
Turkey - cash		5,080
United Arab Republic - cash	22,970	
Arabian Community in Peru - cash	<u>33,400</u>	56,370
Uruguay - sent Air Force and commercial planes with antibiotics, vaccines, sutures, food, blankets, field tents, cooking utensils, unable estimate value	*	
100 tons of rice valued at	<u>13,000</u>	13,000*
USSR Red Cross - 50 large tents, 1,000 blankets, cloth and medicaments	33,690	
Government - 22 planeloads of supplies, equipment, including 200 bed hospital w/surgical unit, helicopters, prefabs, blankets, medical/technical personnel. No value reported but estimated by AID/DRC 1,000,000 Donation of the 3 MI-8 helicopters they brought with them to Peru (value estimated by AID/DRC at approximate cost of UH-1 helicopters \$349,000 each)	<u>1,038,000</u>	2,071,690
The first planeloads of supplies from the USSR Government arrived July 14. In addition to the 22 that landed in Peru another was lost over the North Atlantic. The 200-bed hospital was accompanied by 17 doctors, 11 nurses (mostly male), 18 medical students, 6 interpreters and one cinema technician to make documentary films. The hospital was set		

up in the outskirts of Huaraz on July 22 and the team of 43 Russian technicians worked in the disaster area until Sept. 20 at which time the project was considered successfully completed. Accomplishments were:
 45,000 patients treated (including but not limited to earthquake victims)
 10,000 vaccinations
 14 births assisted
 130 serious surgical cases
 34 field stations established
 146 para-medical Peruvian personnel trained
 60 villages visited for purpose of treating and or evacuating patients. The hospital was donated to the city of Huaraz.
 The Russian delegation was decorated by the Peru Minister of Education on September 26.

Venezuela Red Cross - 127,000 lbs clothing, food, blankets, plasma, antibiotics, value estimated by DRC \$127,000		
Government - 30,000 doses typhoid, 25,000 doses tetanus vaccine		*
Shell Company of Venezuela - cash from workers to finance construction of a school	<u>17,760</u>	144,760
Vatican - cash		90,000
Yugoslavia Red Cross - medicaments - 500 blankets	6,450	
Government - medicaments, 500 blankets	<u>10,180</u>	16,630
Palestinian Red Crescent - medicaments		*
Israel through Magen David Adom - medicines, antibiotics and blankets		5,020
		<u>\$14,870,370</u>

International Organizations

Organization of American States - initial contribution to the Government of Peru - cash	250,000	
Pan American Sanitary Bureau - cash	100,000	
Costs in Miami and Los Angeles for sorting, crating, delivering privately donated supplies to ocean ports	50,000	
For rehabilitation, including temporary shelters, on a matching fund basis with the USG	<u>250,000</u>	650,000
Pan American Health Organization - 40,000 doses tetanus serum and 50,000 vials of penicillin		*
International Petroleum - cash and supplies		45,000

League of Red Cross Societies - Made an appeal to all Red Cross, Red Lion and Sun Societies to make contributions to the Peru Red Cross; chartered an airplane in London to deliver 28 tons of tents and blankets; reinforced the Peru Red Cross with staff from its Geneva headquarters.		
Private collections sent through LICROSS		6,540
United Nations - cash	\$ 20,000	
UNESCO - sent 4 earthquake experts to study seismic zone and UNESCO Staff Association gave cash	480	
UN employees in New York - cash	4,000	
UNICEF - established funding level for telecommunications, transport, reconstruction of hospitals, health centers and schools in the Callejon de Huaylas	<u>500,000</u>	524,480
Order of Malta - several countries, 13,500,000 soles		300,000
Cultural activities including recital by poet, donation of paintings by Salvador Dali and Picasso, other paintings which were auctioned. Total amount raised not available but sum of \$2,000 and \$50,000 were partial figures		<u>52,000*</u>
		\$1,578,020
<u>Worldwide Church Organizations</u>		
World Council of Churches	100,000	
Lutheran-Helsinki - cash to Church World Service	7,200	
Christian Aid, Great Britain - cash to CWS	36,000	
Finland - Lutheran Church	2,000	
Nordic Churches - donated 5 DC6-B aircraft together with spare parts, new engines value placed at 13 million soles, equivalent about	298,000	
Denmark - plane with 2-1/2 tons food, 600 kilograms antibiotics, emergency generators, blankets and clothes - unable estimate value		*
Caritas, Other Catholic Groups		
German Churches - cash, 4,000 blankets, 300 tents and other supplies	150,700	
German Bishops - cash	200,000	
Secours Catholique France - antibiotics, clothing	30,000	
Switzerland - 10 tons medicines, milk, soup, meat, cheese, clothing	72,200	
Italian POA - cash	3,000	
Spain - 5 tons medicines, other aid	47,500	
Canada Development and Peace	50,000	
Canada Oblate Fathers - medicines	25,000	
Belgium - cash for blankets	2,000	
Chile - Church of Santiago de Chile donated six jeweled pectorals and six rings which had belonged to Chilean bishops		* 1,023,600
TOTAL REPORTED ASSISTANCE OTHER NATIONS & INTERNATIONAL GROUPS:		<u>\$17,471,990</u>

CHRONOLOGY OF SOME OF EMERGENCY ACTIONS BY/THROUGH THE GOVERNMENT OF PERU

Because of the enormous problems in bringing aid to the earthquake victims, created by destroyed communications and transportation facilities, the following report on Peru relief operations has been set up chronologically to show the progress made from day to day as repairs could be made and resources pulled together.

- May 31 First news of the damages came from Chimbote. By six in the evening, ham radio messages reached Lima from Recuay and Huaraz. At 7 PM President Velasco and his ministers were in conference and the first group of army vehicles left for the north with food, medicine and clothing.
- June 1 President Velasco arrived in Chimbote to inspect damages. Huaraz was impossible to reach. By evening, ham radio reports and air photographs began to reveal the extent of damages, but it was not possible to confirm the estimate than being made of 30,000 deaths. Confirmation of this did not come until several days later, and it was many more days after that before the full scope of death and destruction was known to the Peruvians and the rest of the world. Embassies and international organizations cabled the news of the disaster to their headquarters. Offers of help started to come in. The U. S. made a cash donation of \$24,000 in Peruvian soles and material aid arrived from Chile.
- June 2 The Government of Peru immediately formed a National Emergency Committee. Pick-up trucks were temporarily taken over to provide transport while the Peru Red Cross set up posts and organized mobile units. The Peru Red Cross appealed to the League of Red Cross Societies, which made an international appeal to member societies for cash donations and urgently needed disaster supplies. Announcement of a donation by Pope Paul of \$10,000 and by the German Church of \$25,000 was made.

The Peruvian Government named officials to evaluate the damage and plan reconstruction. The Government set aside \$17.5 million in soles for aid and rehabilitation of the affected zones.

The first 30 Peruvian paratroops were dropped into the Callejon de Huaylas under the direction of Lt. Col. Enrique Flores Corzo. The troops set about preparing a landing strip and marking sites for air drops. Peru Air Force planes dropped bundles of medicine, food and clothing. The first US aircraft (two UH Army D-model UH1's and three C-130 Hercules heavy transports) and a US disaster relief team arrived to aid in the Peruvian relief program.

June 2 In Lima, public collections for money food and clothes were
(Contd) initiated and donors lined up outside the Red Cross to contribute
blood.



Loading supplies on helicopter

of patients before evacuating the more seriously injured to Lima. A Peruvian tanker arrived with drinking water, food and supplies.

June 4 Four days after the earthquake the first helicopters landed in Caraz. Supplies for the Callejon de Huaylas were by this time mounting up in Chimbote. Available helicopters were limited in loads they could carry. The Government of Peru requested further helicopter support from the United States and others.

People in many of the affected areas complained they were not receiving aid. Delivery and distribution were difficult, often impossible. The roads into the Callejon de Huaylas were blocked and there were only three Peruvian helicopters and two from the US providing transport between Chimbote and Caraz.

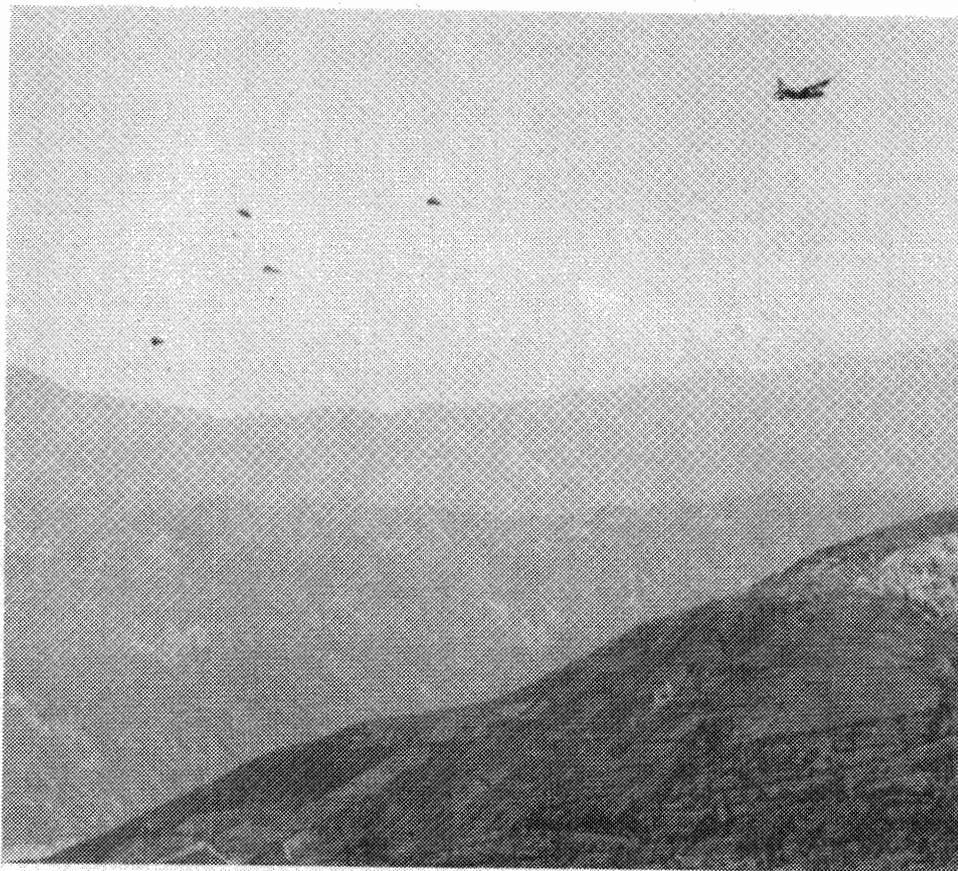
Work teams were organized in Huaraz to start moving rubble. Supplies and cash donations arrived from England, Canada, Cuba and Australia and the League of Red Cross Societies reported that

June 3 Employees and workers in most offices volunteered portions of their wages for the disaster victims. The Minister of Health, General Rolando Caro, was placed in charge of coordinating relief operations. The Junta de Asistencia Nacional (JAN), under the direction of the President's wife Senora Consuela de Velasco, also undertook relief operations.

The Government of Peru dispatched naval vessels to Chimbote from Callao with medical teams, engineers and technicians. Returning ships brought many of the injured with them. The Peruvian naval vessel "Independencia", equipped as a hospital ship anchored off shore outside Chimbote, and was available to treat hundreds

19 Red Cross Societies announced they were sending aid.

*Air drops of
food, blankets
and other
supplies*



*Evacuation of
seriously
injured to
hospitals*



June 5 The US helicopter support was increased by the arrival of two of the larger Chinooks (CH-47's). The airstrip at Anta (about 12 miles outside of Huaraz) still under repair and could only take helicopters and light aircraft. Airdrops were started in the area. U. S. aircraft started dropping fuel at Huaraz to save space on the incoming helicopters which refueled using the dropped supplies. A Helio Courier owned by the Cerro de Pasco Corporation was the first airplane to land at the Anta airstrip and was soon followed by Peruvian Air Force C-46 and C-47 aircraft. 70 tons of supplies were dropped in the Callejon area by Peruvian airplanes and 400 injured were evacuated by helicopters.

Work was begun in Chimbote to replace broken water pipes. Radio stations were set up at Casma, Huarmey and Chimbote. The first car reached Huaraz (a Cerro de Pasco Corporation scout car), followed by a mechanized unit which opened the route in from La Oroya, Cerro de Pasco, Huanuco, La Union, Chiquian and Recuay. This meant supplies could be delivered to some areas by road. Anta airstrip repaired to where it could take C-47 cargo planes. Canada offered use of 5 Caribou aircraft, a type that could land in restricted space. Air drops into the Callejon continued.

The various Peruvian Ministries set to work to aid the people.

Ministry of Housing	Temporary shelter
Ministry of Health	Besides organizing medical aid to the injured, established plans to protect people from epidemics.
Ministry of Transport	Round-the-clock repair of roads.
Ministry of Energy	Restoration of power. Power already restored in Huacho, Chancay, Supe, Pativilca and Barranca. Continuation of work on Huallanca Power Station
Ministry Foreign Affairs	Obtained help from United Nations and Organization of American States, including both funds and technical personnel for rehabilitation and reconstruction projects.

June 6 Rescue and relief operations becoming more organized and effective but many areas remained impossible to reach. Transport into the Callejon de Huaylas still mostly restricted to C-46 and C-47 planes and helicopters. However, the first convoy of 36 JAN trucks was reported moving along the route through Huanuco bringing food, medicines and clothes.

The Government of Peru put together a list of the most urgently needed supplies which foreign embassies could submit to their governments as guidelines for providing assistance. By this time aid was coming in from all over the world. Eventually 69 nations sent cash and/or supplies for the earthquake victims.

June 6
Cont'd)

Peru announced that \$230 million would be needed to reconstruct the earthquake area (this was later raised to \$530 million), and the Government requested loans of \$35 million from the Inter American Development Bank and \$150 million from the International Bank of Reconstruction and Development (World Bank), at long terms and low interest rates.

JAN took on the responsibility of resettling children who had been left either temporarily or permanently without families.

The Government of Peru had many and serious problems to overcome in bringing aid to the earthquake victims. One official commented *since Peru had no contingency plan at hand to deal with a disaster of this scale some parts have necessarily been a matter of trial and error.* Institutions in Peru, governmental and private, were not structured to deal with emergencies of such magnitude. This is true of many countries. Even in the United States major disaster relief efforts involving large amounts of aid have lacked full coordination in the past, and complaints were made of delayed and inequitable distribution of relief supplies.

Immediately after the earthquake emergency relief and security were provided by the Peruvian military forces. During the emergency period, three successive government organizations were charged with the responsibility for coordination--the Junta de Asistencia Nacional (JAN); a special committee in the Ministry of Health; and finally, the National Emergency Committee was established in the Palace.

From the Peruvian Times: Different estimates from reliable people on the loss of life suffered in Peru's earthquake of May 31 vary between 30,000 and 80,000. The rescue and relief operation now underway is the biggest, most varied and fastest enterprise ever mounted in this country. It covers a very large area, much of it heavily populated and extraordinary difficulties are presented by the geography of the region. The logistical and organizational work alone is on an unprecedented scale here, with thousands of people from different organizations and countries having to funnel goods and effort through a very narrow transport bottleneck.

An official communique was issued that 60% of the electrical power for civilian uses had been restored in Chimbote and 90% in Trujillo.

Report made that an international mixture of cargo planes was arriving in Lima at the rate of every two to three minutes.

Problems with distribution of supplies in Chimbote caused the Military Commander to direct that

all contributions from whatever source be taken directly to the port area and deposited at the store there. All applications for aid from outlying areas were to be made to the Captain, who would authorize withdrawal of supplies from the store at the port. For Chimbote, itself, the city was

divided into six zones for food distribution under the over-all control of the Navy. A different organization was charged with distribution of emergency food in each zone. These organizations were the Navy, Army, Corporacion Peruana del Santa, the Ministry of Housing, the National Fisheries Society and Compania Pesquera Coishco. Each district had a population of about 30,000. Each block of a district was required to name a representative who would make formal requests for help and would supervise equitable distribution in his block once the supplies were delivered to the area on a guarded truck.

A few days later there were complaints from people in the outlying areas that even though they had proper authority from the Captain, preference was given to trucks loading for Chimbote which were admitted to the dock area very quickly, while they had to wait several hours for their supplies.

June 7 Two more C-130 US military aircraft arrived from the US bringing two helicopters, making a total of five of the Huey-type from the US (one of the four previous ones had crashed in the Callejon). A US Air Force jet arrived with a disassembled Chinook helicopter. The larger Chinooks are capable of flying at an altitude of 16,000 feet. They could go to the Callejon and back to Lima without refueling with 3 tons of cargo.

June 8 The President of Peru received a message from President Nixon offering \$10 million in US aid, of which \$2.6 million was for emergency aid (later raised to \$3,150,000) and \$7.4 million for rehabilitation and reconstruction.

Announcement made this date that the US aircraft carrier "Guam" was on its way to Peru, would arrive at Chimbote June 11, anchor there, and make its fleet of helicopters available to carry relief supplies to remote areas in the Cordillera Negra communities and along the coast and to evacuate the injured.

Lima-Huaraz road, via Pativilca, Cajacay and Recuay was opened with pioneer cuts through all slide areas. Workmen labored on a 24-hour basis from two fronts--one from Pativilca and the other from Recuay. Slides continued to block the road temporarily for many days thereafter.

The Minister of Housing indicated it was starting on the purchase of construction material for housing, including 498 tons of corrugated roofing from Australia, scheduled to arrive in Callao July 20. The Ministry also bought waterproof tents for temporary shelters.

By June 8 drinking water had been restored in several zones. Construction had begun in Chimbote on 500 houses. The population in Chimbote at this time, based on a rough census was estimated



Water distribution in Huaraz

at 270,000, about 50-60,000 having reportedly come in from the mountain villages destroyed by the earthquake.

The 5 Caribou twin-engine STOL aircraft arrived from Canada with a 70-man detachment from the 424th Transport and Rescue Squadron. They began their relief missions on June 9.

By June 8, the Peruvian Air Force was flying an average of 15 transport planes a day in and out of the disaster zone between Callao, Anta and Chimbote. The planes were C-46, C-47 and C-54. There were also eight Peruvian Air Force helicopters operating in the region, all small ones--Allouette-3, Bell 47-G and UH-1D. Other countries besides Canada and the US that had provided aircraft by June 8 were Argentina, Brazil.

A pile-up of medical supplies was reported at the Chimbote airport, a lot of it stacked upside down despite instruction to the contrary. A Peru news commentary on this was that *Somebody says they have too much stuff at Huaraz, which is why this is not going out.*



Relief supplies in hangar at Chimbote

July 8 (Contd)

Worry was expressed about assistance reaching the hundreds of villages scattered over every possible hill, mountain slope and the valleys of the earthquake zone that extended from the Pacific Coast to the eastern slopes of the Cordillera Blanca. Access to these villages is difficult under normal conditions, but the earthquake had cracked the earth, streams were running in different places and landslides had covered the trails and cart tracks. This type of damage had made these villages almost impossible to reach. Nevertheless, plans were made to survey these areas by helicopter, bring in medical teams, disaster supplies and to evacuate the injured. Many brave and courageous men and women from all

over the world joined with Peruvians to take aid to people in these isolated areas. As of June 8 the Anta airstrip could still only take C-47's and light aircraft. This strip was the only point of direct communication between the outside world and the whole Callejon de Huaylas region.

June 9 Continued problems experienced in relief operations caused the Peruvian Military to tighten control of operations in Chimbote area to prevent disappearance of supplies, black marketing, etc. These incidents diminished after that. The Government of Peru also decided to arrange for parish churches in Chimbote to handle distribution of the majority of relief supplies. This the churches did by providing storage and distribution points with local officials being responsible for individual allocations. At the same time, improvement was reported in the relief operations of JAN.

The Government formed a Commission to be in charge of reconstruction and rehabilitation to administer all resources, national and foreign. It was called *Comission de Rehabilitacion y Recon-*

struction de Las Zonas Afectadas del Terremoto (CRYRZA) and was headed by General Villa Pazos, who was given cabinet rank.

June 10 The Government of Peru Ministry of Agriculture sent teams of engineers to stricken areas in the coastal valley to repair broken irrigation canals.

June 11 The Government of Peru announced plans to establish rehabilitation centers in Lima including a 500-bed facility at Feria del Pacifico fairgrounds and a 250 bed center at Huampani. The Peruvian vessel "Paíta" brought 500 orphans from Chimbote to Lima.

Four volunteer centers were established in Lima to package relief materials for onward shipment to the disaster zone.



Mrs. Edith Belcher, wife of U. S. Ambassador Taylor G. Belcher, organized a group of American and Peruvian women to pack supplies to be airdropped to inaccessible mountain villages.

Because of the confusion regarding what supplies and medicines should receive priority delivery to the quake areas, as well as the actual needs for medical manpower, the Minister of Health (MOH) worked out a system with the US Medical Team Coordinator. The team was requested to provide the MOH with lists of medical teams and goods that could be made available. The MOH selected those services

and supplies from US offers which it felt were most urgently needed and could be effectively utilized. All US groups that arrived in Lima unsolicited were put in contact with the MOH individually to work out their own approval for utilization. This was done to meet the situations that arose but it was not desirable and was not a method the MOH wished to use.

The MOH organized 30 small medical field teams from available Peruvian and international personnel to be ready for airlift into locations on the western slopes of the Cordillera Negra by helicopters from the "Guam" and by the Peruvian Air Force. This was begun on June 11 with Peruvian helicopters, which



Medical teams at landing zone in Cordillera Negra after being airlifted from Chimbote by a US helicopter from the "Guam"

were joined in the operation by the "Guam" aircraft on June 12. Subsequently, an additional 30 teams were provided for other locations on these slopes. Each team consisted of one doctor and 3 para-medical personnel. The helicopter also brought disaster supplies and evacuated the injured. Wherever possible, Peruvian Rangers equipped with radios accompanied the teams. A radio net was established to coordinate air evacuation and delivery of supplies. Each team was equipped for self-sufficient operation in the field for six to eight days.

The Catac-Huari and Casma-Pariacoto Roads were opened on June 11.

June 12 The Government of Peru divided the earthquake area into zones and designated four voluntary organizations to assist in carrying out food distribution and food-for-work projects for rehabilitation and reconstruction in these zones as follows:

Catholic Relief Services/CARITAS:

Provinces of Trujillo, Santiago de Chuco, Santa (including Chimbote), Huari, Cajatambo, Chancay.

Seventh-Day Adventist Welfare Service/OFASA:

Province of Casma and western zones of Provinces of Yungay & Huaraz)

Church World Service:

Province of Aija and Huarmey Valley

World Food Program:

Callejon de Huaylas and provinces east of Cordillera Blanca of the Department of Ancash (Corongo, Pallasca, Pomabamba, Bolognesia, Antonia Raymondí)

Since the World Food Program did not have representatives in Peru, distribution of their provisions was assigned to JAI and the Peruvian Red Cross.

The plan called for food distributions in each zone to be carried out under coordination by the National Emergency Committee, which was given the responsibility of establishing local committees to work with these organizations and also to coordinate transportation of food shipments.

June 12 Tax exonerations were announced for the Department of Ancash, Provinces of Trujillo, Santiago de Chuco, Huanachuco and Otuzco in the Department of La Libertad and Provinces of Chancay and Cajambo in the Department of Lima. These exonerations included companies formed for rehabilitation/reconstruction in the affected areas.

Telephone service was reestablished to Huaraz. The Recuay-Aija road was opened.

Cardinal Juan Landazuri, Archbishop of Lima and Primate of Peru, visited the Callejon with the Papal Nuncio on June 11. From the beginning, the Peruvian churches sent many priests, nurses, social workers and others to the earthquake areas, placed church radio and radiophone facilities at the disposition of the Government of Peru, collected food, clothing and cash and provided temporary shelter in rectories, church halls and other church buildings for many victims.

June 13 The Government of Peru established the following priority for relief operations: (1) Callejon de Huaylas; (2) Chimbote-Casma-Huarmey; (3) Huancayo-Huascarán area; (4) Department of La Libertad, capital Trujillo.

June 14 Arrival of four Transall C-160 transport planes and 3 helicopters from France.

The Government of Peru Military/Relief Commander in Chimbote announced emergency situation was beginning to stabilize there-- food was adequate; rubble was starting to be cleared away.

June 15 JAN completed establishment of 21 main bases and several subbases in 21 provinces in the Departments of Ancash, La Libertad and Lima. JAN transported supplies to main bases for subsequent distribution to the subbases and other points within each province. By this time JAN was sending large truck convoys loaded with supplies daily from Lima to main bases. This organization maintained a 24 hours a day schedule. By June 26 it had delivered 10,000 tons of relief supplies and had another 30,000 tons in process of packing and shipment. It received over 100 million soles in cash from various donors (about \$2.5 million). This was deposited in the Banco de la Nación to be used in accordance with instructions from the National Emergency Committee. It was later determined by the NEC and announced by Mrs. Velasco that the money would be used for housing projects and road repairs.

The following Peruvian Organizations (including American and third country firms operating in Peru) were among those who made contributions of cash, equipment or supplies through JAN or other relief organizations:

Sociedad Nacional de Pesqueria
Cerro del Pasco
Marcona Company and Marcona Unions
W. R. Grace & Company
City of Cusco
Peruvian Football Team
Southern Peru Copper
First National City Bank
Caja de Beneficios Sociales de Pescadores
Belco,
Sociedad Nacional de Industrias
PetroPeru
Comite de Deportes
Lima Municipality
Arequipa and Tacna
Association of Farmers and Cattle Raisers San Lorenzo County
Explosivas, S.A. of Lima
Banco Continental
Credisa

Leche Gloria
Droqueria Kahan
Goodrich
Coca Cola
Schering Corporation and workers
Iaps Auto Company and employees
International Petroleum
Lima Industrial firms
Peruvian Bank
Itoh & Company, Ltd.

By June 15 the Government of Peru had established the mechanism for developing a comprehensive plan for longer term reconstruction effort and was seeking financial assistance from both multi-lateral and bilateral donors.

June 16 The Government allocated the sum of 450 million soles (about \$11.5 million) to the National Emergency Committee for immediate aid to the disaster region. A moratorium was declared for the disaster zone on all debts contracted from May 31 to at least December 31, 1970.

The Peruvian Association of Microbiology issued a warning to survivors who had fled from the Sierra to the Amazon area that they might be in danger of contracting yellow fever. Prompt vaccination was urged.

June 17 The Minister of Education ordered all school personnel in the earthquake areas to cooperate in distribution and storage of food. The Peruvian firm Alambresa advised they had the capacity to produce galvanized corrugated steel roofing materials; that they had 400,000 sheets, size 2'x6', on hand with 90,000 reserved for the Government of Peru.

June 18 The Minister of Health stated the most serious problem remaining was housing, temporary and permanent. More and more reports coming in from other organizations, relief teams and officials to the same effect, except that blankets were still listed as a critical need. By this date, evacuation of the injured had been largely suspended because emergency hospitals in Chimbote, Anta, Huaraz, Huacho and Casma were functioning.

June 19 Plans were made by the Minister of Education to travel to the disaster areas along the coast to inspect damage to schools and to organize emergency measures to restore educational facilities.

June 21 Estimate of money needed for reconstruction raised from \$230 million to \$530 million.

June 22 First landing of a C-130 heavy transport at the Anta airstrip was made by a US pilot. News media in Peru indicated focus of

Government of Peru and public attention was shifting from emergency relief to rehabilitation and reconstruction.

June 24 Small landing strip opened at City of Huaylas. Order of Knights of Malta announced plans to establish a fully equipped 50-bed hospital in Recuay

June 25 Huaraz-Casma highway opened.

June 26 Government of Peru Interior Minister Artola told newsmen that aid was reaching all parts of devastated areas, and he expressed gratitude for aid which had been sent by other countries.

July 14 Arrival of first planeloads of supplies from Russia, including a field hospital with surgical unit and 3 helicopters.

Emergency relief operations continued as needed to mid-August but even before that time the emphasis had switched to rehabilitation and reconstruction.

SURINAM

CHARACTERISTICS OF THE DISASTER

EVENT: Floods
DATE-TIME: Summer 1969
LOCATION: Interior
DISASTER VICTIMS: People Needing Food Assistance
4,600

DESCRIPTION OF THE DISASTER:

There was very little information available on this disaster. Approximately 4,600 people living in two flooded areas in the interior had to be moved to higher ground. About 60 bush settlements were affected. The World Food Program approved a feeding project for the flood victims.

ACTION TAKEN BY THE GOVERNMENT OF SURINAM AND LOCAL ORGANIZATIONS:

Information was not available.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The World Food Program requested that the U. S. Government provide the following P. L. 480, Title II, Food for Peace commodities for its feeding project, which was approved by AID/W: 160 metric tons of cornmeal; 25 metric tons of nonfat dry milk; and 25 metric tons of vegetable oil. Estimated market value of this food was \$33,000 and ocean freight charges were approximately \$13,000 for a total USG contribution of \$46,000.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

World Food Program

WFP established a food project for the flood victims and requested that the U. S. Government provide above quantities of cornmeal, nonfat dry milk and vegetable oil. In addition WFP provided 33 metric tons of dried fish. Value of the fish was not reported.

AFGHANISTAN

CHARACTERISTICS OF THE DISASTER

EVENT: Drought/Food Shortage
DATE-TIME: 1969-1970
LOCATION: Province of Paktia
DISASTER: People Needing Emergency Food
VICTIMS: 48,000

DESCRIPTION OF THE DISASTER:

After a prolonged drought in 1969, a food shortage developed. This resulted in an increase of wheat prices by over 11% and interest rates in Paktia of 30-50% per year. The crop failure left 48,000 victims in need of food assistance.

ACTION TAKEN BY THE GOVERNMENT OF AFGHANISTAN:

The Government of Afghanistan asked for World Food Program aid to sustain the needy victims until the next crop could be harvested. It requested a food-for-work project for 4,000 men who would work for 72 days over a period of three months and who would receive payment of about 500 kilos of wheat for a family averaging ten to twelve persons.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The World Food Program asked the U. S. Government to contribute the total food requirement of 2,500 metric tons of wheat. USAID/Kabul concurred in the WFP food-for-work project and approval was received from AID/W. Value of the wheat was estimated at \$175,000. Ocean freight charges were estimated at \$200,000. Total USG Contribution.....\$375,000

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

World Food Program - Established above food-for-work project. A German agricultural group, which is active in Paktia and which initially reported the emergency, assisted the Government of Afghanistan in the implementation of the feeding program.

CEYLON

CHARACTERISTICS OF THE DISASTER

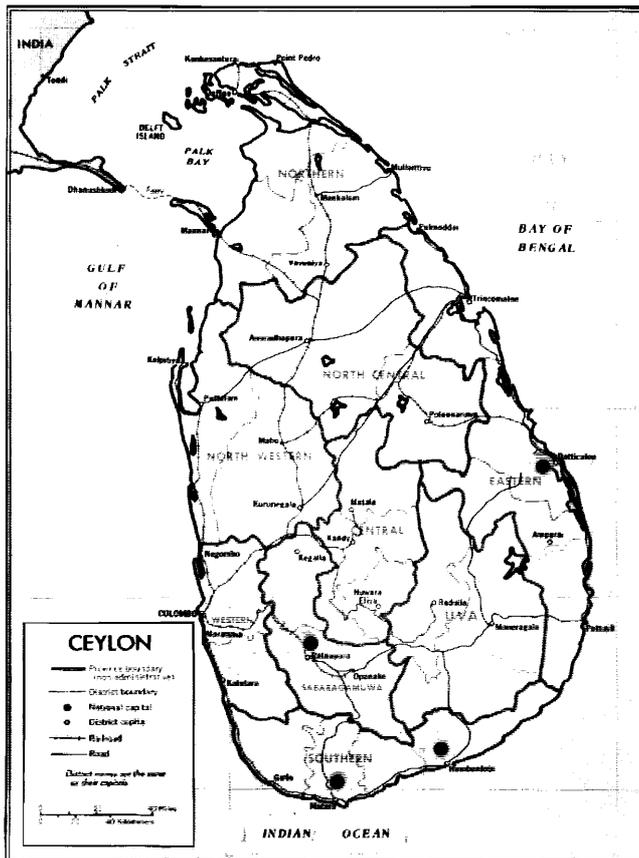
EVENT: Floods

DATE-TIME: December 25, 1969 to second week in January 1970

LOCATION: Eastern, North Central and Southern Provinces

DISASTER VICTIMS: Killed 62 Evacuated 150,000 families (about 1 million people)

DAMAGES:	<u>Houses</u>	<u>Crops</u>	<u>Suspension Bridges</u>	<u>Estimated</u>
	<u>Destroyed/Damaged</u>	<u>Damaged</u>	<u>Destroyed</u>	<u>Dollar Damage</u>
	15,000 35,000	30,000 hectares rice	20	\$8,500,000



DESCRIPTION OF THE DISASTER:

A cyclonic depression caused heavy rains which lasted for six days. The big rivers of Minneriya, Mahaweli and Ambanganga overflowed their banks ravaging entire tracts in Eastern, North Central and Southern provinces. The sudden onrush of flood waters caused destruction and damage to dwellings, roads, bridges and culverts, telegraphic communication lines, food stores, crops harvested and those due for harvesting. Many landslides occurred. Some communities were marooned. An estimated 150,000 families had to be evacuated from their homes and the majority of them lost all immovable property.



Flood victims of Ambalantota Malay Colony view the site where their home formerly stood.

Rainfall was heaviest in the Southern and Eastern Provinces. In one of the driest regions of Ceylon (Hambantota) the precipitation measured 17 inches, while Matara had 22.6 inches and Batticaloa 15.3 inches. In the first two regions for a 24 hour period on December 29-30 rainfall amounted to over 11 inches.

A USAID representative made a personal inspection of the three hardest hit districts after the flood and found no evidence of hunger or disease attributable to the flood or its aftermath.

ACTION TAKEN BY THE GOVERNMENT OF CEYLON AND LOCAL ORGANIZATIONS

The U. S. Mission reported that the Government of Ceylon operated from a flood relief plan that had been drawn up in 1956 and that this helped them to move rapidly and decisively to deal with the disaster situation.

All available resources of the Government were concentrated on evacuating families, housing the victims in camps and keeping essential food supplies



Flood victims at Bolare Village--one of the 51 emergency camps in Hambantota District. These victims lost all their personal belongings.

going. Ceylon Army medical teams were rushed to the affected areas. The Ceylon Air Force flew food drop missions to cut-off areas and the largest vessel in the Ceylonese Navy was dispatched to Tangalle-Hambantota loaded with food.

The Prime Minister of Ceylon flew over the flooded areas. He later placed housing first among rehabilitation priorities followed by health, transportation and communications.

On January 10 it was reported that the first stage of emergency relief was about over. Emphasis was shifted to rebuilding houses, roads and the irrigation system. Food aid and medical assistance continued, however, until the people could fend for themselves.

Floods came too late in the growing season for much replanting so that many of the flood victims could not expect another crop until the

fall harvest. The Government of Ceylon requested US assistance in providing wheat flour to help feed approximately 500,000 people for several months.

The Government of Ceylon aid to disaster victims included subsidies to cover a portion of home rebuilding costs as well as monetary allowances to the destitute who were housed in schools and other public buildings.

Housing damage and destruction was almost wholly confined to self construction wattle and mud structures. Except for a few in the direct path of onrushing flood waters, more substantial structures including school buildings suffered little more than water damage. The Government authorized payment of cash grants for self-help housing repair and for reconstruction of totally destroyed houses. The Department of Social Services in cooperation with an agent of the Ceylon Government inspected the damaged houses. On application made by the chief occupant and certified by the village headman and a Social Service inspector, an initial grant of 50 rupees was made. Further payments up to a maximum of 500 rupees were made as the work progressed. This system assured that money would be used for the purpose intended.

The Ceylon Government also provided farmers in the flood areas with paddy seed of a specific variety. Those wishing to plant other varieties were given cash to buy from private suppliers.

Caritas/Ceylon set up a program of four major projects to assist the Government of Ceylon in its reconstruction program and made an appeal to Caritas Internationalis for funds. These projects included assistance in the reconstruction of 20 suspension bridges in the Matara District; rebuilding of 150 homes and a school in the Malay Colony village in Hambantota District; assistance in reconstruction of the village of Nadola in Ratnapura District, which was completely destroyed; and funds to assist in recovery in the Batticaloa District.

It was estimated that costs to the Government of Ceylon for emergency relief and rehabilitation of the stricken areas would be 50 million rupees (equivalent about \$8.5 million). It is not known whether an appropriation of 16 million rupees (about \$2.7 million) by parliament to the Social Services was included in the \$8.5 million.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

The request made by the Government of Ceylon for food aid resulted in approval of a contribution of 10,000 metric tons of wheat flour under the P. L. 480 Food for Peace program. However, the flour did not arrive until April--too late to be used for emergency distribution to the flood victims.

Of this amount, 2,500 metric tons were used to replace food stocks used by the Government of Ceylon for the flood victims. The Government of Ceylon indicated wheat flour was not a desirable commodity in the rural areas

which could be used in food-for-work projects, and AID therefore approved its request to sell 5,573 metric tons of the flour and use the proceeds for flood rehabilitation. The balance of 1,927 tons were given to CARE and the World Food Program for their regular programs.

Market value of this 8,073 metric tons of flour used for flood relief was approximately	\$700,000
Plus ocean freight charges.....	575,000
	<u>\$1,275,000</u>

Also the USG donated the following Food for Peace Commodities to the World Food Program for emergency distribution to 250,000 victims for a period of three months:

438 metric tons flour & 675 of dry milk, value.....	\$363,000
Plus ocean freight charges.....	75,000
	<u>\$438,000</u>
Total.....	\$1,713,000

CARE provided 120,000 pounds of biscuits from USG P. L. 480 food commodities but no value was given.

In addition, AID approved the use of 1.28 million rupees (about \$217,000), which had been contributed by the USG for a previous flood relief fund but had not been used, for rehabilitation projects made necessary by the new flood disaster. Since credit for this contribution was probably given on the old flood disaster, it is not included in the total value of USG assistance above.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

CARE

CARE released 120,000 pounds of biscuits from Ministry of Education and CARE stocks in Batticaloa and Boosa. CARE then replenished these emergency rations to the Ministry of Education so the school feeding program, for which the biscuits were originally destined, would not suffer.

The following is quoted from a letter sent by USAID/Ceylon to the CARE representative there:

I want to take this opportunity on behalf of the Embassy and the AID Office to thank you for CARE's prompt response during the recent flood emergency. We have been told that CARE was first to arrive with food stuffs for the flood victims. The performance of your organization reflected most favorably not only on your own organization, but also most favorably on the United States.

I also want to thank John Frechette and Robert Flick for their timely and comprehensive reporting of the situation as they found it in the flood area. This was most helpful to us in

assessing the needs of the situation and in formulating our own flood relief plans.



Mr. John Frechette, Assistant Chief of CARE Mission, presents a carton of CARE biscuits to flood victims of Ranchagoda Village, Matara District.

American National Red Cross

The American Red Cross sent one million halazone water purification tablets at a cost of \$2,240.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Caritas, Internationalis and various Caritas national organizations assisted in the reconstruction program in the flood regions. Reference is made to four projects undertaken by Caritas reported above under "Action Taken by Government of Ceylon and Local Organizations". Funds for this were solicited from the Caritas groups and it was estimated the cost would be about.....\$ 230,000 .

World Food Program - Provided 438 metric tons of wheat flour, 675 of nonfat dry milk and 53 of dried fish to feed 250,000

people for a period of three months. The wheat flour and dry milk were contributed by the United States and is included above under the US Government assistance. Value of the dry fish was not reported.

Except where indicated the following contributions were made by Red Cross Societies:

		<u>Value</u>
Australia Government - cash	\$5,000	
Red Cross - cash and supplies	<u>1,670</u>	\$ 6,670
Burma - cash		410
Cambodia - cash		180
Canada Red Cross - supplies		11,970
The Canadian Government had provided 26,000 tons of wheat flour for their regular aid program in Ceylon, and it was expected that some of this would be diverted to flood relief.		*
Czechoslovakia - supplies		7,000
Denmark Government and Red Cross - cash		1,330
Germany, Dem. Rep. - supplies		24,490
Germany, Fed. Rep. - Government - 50,000 rupees, equivalent of		8,550
Great Britain - cash		2,460
India Red Cross - supplies	\$3,510	
Government - supplies	<u>3,370</u>	6,880
Iran - supplies		530
Japan Government - 500,000 rupees, equivalent of	\$84,700	
Red Cross - supplies	<u>4,500</u>	89,200
Kuwait - cash		720
Lebanon - cash		40
Malaysia - supplies		60
New Zealand - supplies		560
Philippines - cash		250
South Africa - cash		140
Sweden - cash		1,940
Switzerland Government - supplies		8,450
Thailand - cash		380
USSR - supplies		<u>11,160</u>
		<u>\$413,370</u>

* Incomplete or not reported

CYPRUS

CHARACTERISTICS OF THE DISASTER

EVENT: Wind Storm

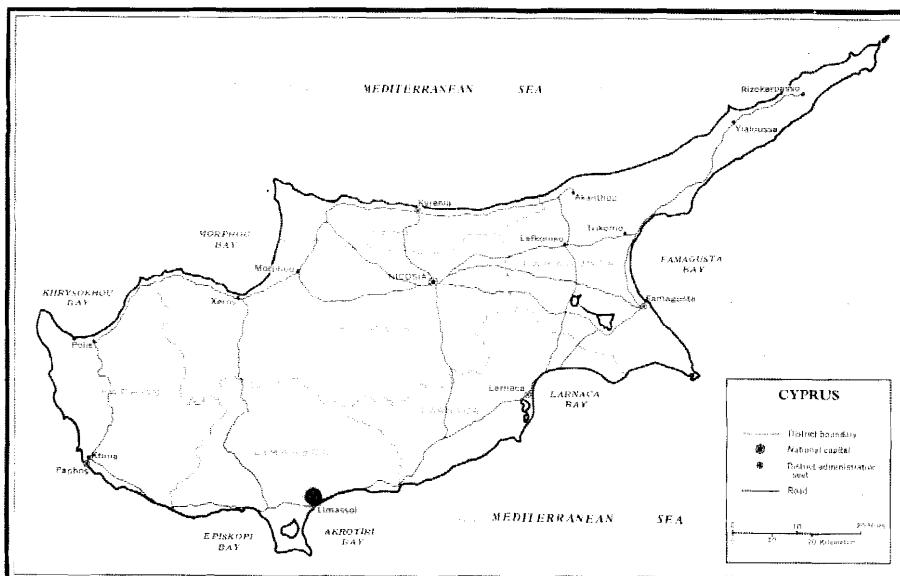
DATE-TIME: December 22, 1969

LOCATION: Limassol

DISASTER VICTIMS/ DAMAGES:	People		Houses	Shops
	Killed	Injured	Destroyed/Damaged	Damaged
	3	Over 100	50	40
	About 3,000		500	

DESCRIPTION OF THE DISASTER:

During the evening of December 22, 1969, tornado force winds cut a 200-yard path of destruction through the city of Limassol (population 65,000) and its suburbs. As a direct result of the storm, three persons were killed and over 100 injured. Approximately 500 homes were damaged, including about 150 in the Turkish sector of the city. Fifty houses were almost totally destroyed. Upwards of 40 shops and stores suffered from partial to total destruction. Hardest hit was the poor suburb of Mesayitonia, through which the winds passed immediately before breaking up on the hill behind the town. Here some 15 homes were reduced to rubble and one of the three deaths occurred. Hundreds of trees were uprooted or broken and electrical power was disrupted throughout the area.



Cyprus does not often suffer natural catastrophes such as wind storms or earthquakes. The last storm was in 1884; the last earthquake in 1953. Droughts occur more regularly.

ACTION TAKEN BY THE GOVERNMENT OF CYPRUS AND LOCAL ORGANIZATIONS:

Shortly after the

storm had passed through the city, the local administration directed that survey teams made up of representatives of the District Office, the Welfare Department, and the Public Works Department make a survey and report on the damage suffered. Electricity Authority teams began round-the-clock repairs to the downed wires and poles. Rescue teams from the nearby RAF base at Akrotiri SBA arrived with portable generators and blankets.

On the morning of the 23rd, the District Office began handing out grants of \$240 to those who had lost food, shelter and clothing in the storm. Over the next several days, the President and interested Ministers toured the city to inspect the damaged areas. The Archbishop's inspection of the damage to the Turkish sector was the first visit of the President to a recognized Turkish area since intercommunal hostilities began in 1963. The Turkish sector of Limassol is not a closed enclave and Limassol has had a history of cooperation between the communities. At this time, the President announced that Government and private assistance to sufferers would be granted without consideration of ethnic background.

By December 30, all the streets had been cleared and electricity had been restored to all but the most inaccessible areas. All those who had to leave their homes were housed with friends or relatives. The initial round of small grants was completed and the Government of Cyprus began to consider major reconstruction.

Perhaps because of a nature less malevolent than that found in some other areas, the Government had no automatic relief machinery. Thus, disaster relief funds awaited a special allocation from the Parliament.

On Monday, December 29, the Parliament announced a special appropriation of \$240,000 for disaster relief. A non-government disaster relief fund had already been established under the Bishop of Kitium (in whose bishopric Limassol falls), to be administered by the Limassol Chamber of Commerce. Information was received that \$129,000 had been contributed by foreign governments and private individuals to the Bishop's fund. Reported contributions by other nations are listed at the end of this report. These total \$25,800. Subtracting this from the \$129,000, it is assumed the balance of \$103,200 came from private in-country sources.

In addition, the Turkish local administration spent about \$96,000 for relief of the Turkish community. Other than emergency grants from the Government or the relief fund to people in need of food, shelter and clothing and grants for small reconstruction jobs such as replacing roofs, the remaining cost of rebuilding or rehabilitation were undertaken by the individuals who suffered the losses.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

Measuring the burden of the catastrophe not so much in terms of property values as in terms of the suffering of the 500 families who lost all, or part, of their homes, and the shopowners who underwent similar damages, the Limassol tornado was by all accounts the worst natural disaster Cyprus suffered since an earthquake in 1953. The Ambassador determined that out-

side assistance was warranted and that the U. S. Government should join with private individuals in Cyprus and other foreign governments in making cash contributions for the storm victims. The USG donation of \$1,000 in local currency was presented to the Limassol District Officer, who indicated that the two communities would receive equal treatment in the distribution of disaster relief funds. The US contribution, as well as donations by other friendly governments, received extensive publicity in the local press. Cyprus authorities expressed their official thanks.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES: None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Greek Government - cash.....	\$12,000
United Kingdom Government - cash (\$7,200) and also portable generators and blankets for which no value was reported.....	7,200*
German Embassy - cash.....	2,700
French Government - cash.....	1,440
Israel Government - cash.....	300
United Arab Republic Red Crescent - supplies.....	2,160
	<u>\$25,800</u>

* Incomplete or not reported

JORDAN

CHARACTERISTICS OF THE DISASTER

EVENT: Drought
DATE-TIME: 1969-1970
LOCATION: All districts of Jordan

DESCRIPTION OF THE DISASTER

Rainfall during the fall of 1969 and into January and February of 1970 ranged from one-fourth to one-half the amount for the same period last year. This, along with unseasonably warm weather resulted in a shortfall of pasture production and winter feedgrain crops. The effects were widespread, requiring emergency feeding in all districts of Jordan. The Ministry of Agriculture reported that approximately 800,000 animals, mostly sheep, needed between 300 to 500 grams of feedgrain daily to prevent selling of foundation stock and depletion of herds.

ACTION TAKEN BY THE GOVERNMENT OF JORDAN

The Government of Jordan furnished 4,000 MT of corn and barley each month during the emergency period. Estimating 8000 tons for about two months, value of this contribution was about \$480,000. The Government also requested 10,000 metric tons of corn from the United States to cover a distribution period of 25 to 40 days. The GOJ agreed to pay all internal handling costs of corn donated by the USG.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT

USAID recommended U. S. participation in this emergency relief project and this was approved by AID/W.

Estimated market value of the 10,000 MT corn	\$ 600,000
Plus ocean freight charges	550,000
	<u>\$1,150,000</u>

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS - None reported.

PAKISTAN

CHARACTERISTICS OF THE DISASTER

EVENT: Fire

DATE-TIME: February 9, 1970

LOCATION: Karachi

DISASTER VICTIMS:	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>
	None	None	1,105

DAMAGES:	<u>Homes Destroyed</u>	<u>Estimated Dollar Damage</u>
	219	\$60,000

DESCRIPTION OF THE DISASTER:

The fire broke out in the Gujru Nala area of Karachi where about 600 families lived in thatched roof huts. The fire started from a kitchen of a hut at 11:30 a.m. when male members were out to their jobs. It immediately spread over a wide area. A municipal corporation fire fighting squad reached the spot after 30 minutes and controlled the fire, but by that time 219 huts had been completely destroyed leaving 1,105 people homeless.

ACTION TAKEN BY THE GOVERNMENT OF PAKISTAN AND LOCAL ORGANIZATIONS:

This was a disaster of a minor nature and was controlled by local organizations without the need for national government assistance. Political parties were active in assisting the fire victims. Their workers helped in rescuing the victims and putting down the fire. They also provided bedding, cots, clothing and cash. The Pakistan Red Cross Society distributed new pullovers, men's shirts, cloth, bedding, soap and kitchen utensils. Habib Trust contributed food for 1200 people for four days, and a number of private organizations and individuals also donated food, household articles and building material. The Commissioner of Karachi sanctioned a grant of 50 rupees per family. Estimated value of in-country contributions.....\$6,000.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

Although this disaster was a minor one, the American Ambassador determined that a small contribution should be made to the Pakistan Red Cross for the fire victims. Accordingly, he authorized the expenditure of 2,500 US-owned rupees for this purpose, equivalent of.....\$ 525.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None.

ASSISTANCE PROVIDED BY OTHER NATIONS - None.

TURKEY

CHARACTERISTICS OF THE DISASTER

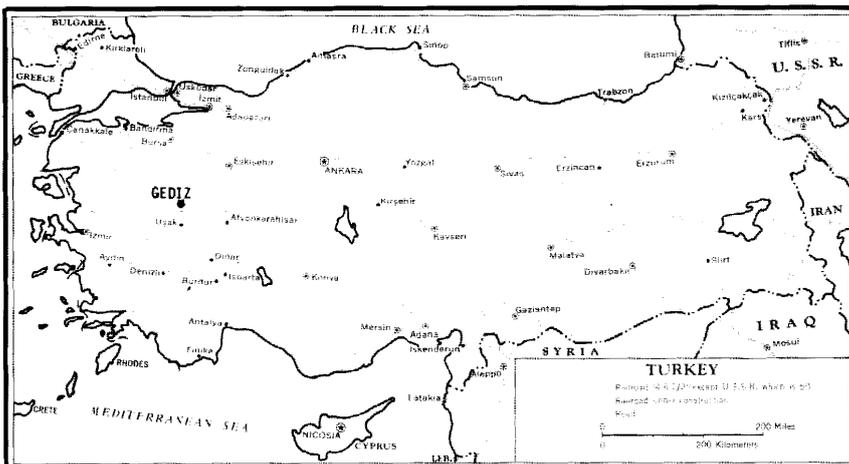
EVENT:	Earthquake		
DATE-TIME:	March 28, 1970, shortly after 11:00 P.M.		
LOCATION:	West Central Turkey		
DISASTER VICTIMS:	<u>Killed</u> 1,086	<u>Injured</u> 3,000	<u>Homeless</u> 80,672
DAMAGES:	<u>Homes Destroyed and Damaged</u> 9,944	<u>Estimated Dollar Damage</u> \$55,560,000	

DESCRIPTION OF THE DISASTER:

On March 28, shortly after 11:00 P.M., local time, the west-central area of Turkey was shaken by an earthquake centered around the town of Gediz. The earthquake registered 7.1 on the Richter scale. Some surface faulting occurred and new hot springs were reported along faultbreaks.

Turkey sits astride one of the world's major earthquake belts, and destructive earthquakes are common.

Gediz and 144 surrounding villages with a population of 169,000 were affected by the disaster. It was reported that 28 of these villages were destroyed and 33 others heavily damaged. Destructive fires followed the quake in Gediz and some of the villages.



Gediz, a town of about 8,000 people, was 80 percent destroyed either as a result of the earthquake or the fires which followed. Among the buildings destroyed was a six century old Mosque. The League of Red Cross Societies' bulletin stated not a building in the



Gediz



Fires after the quake

town remained untouched. Modern concrete structures were damaged inside, even though outside walls may have remained upright.

LICROSS also reported severe destruction to Kaya Koy, a village with 1,800 people. There were 130 people killed in this village when the earthquake brought crashing down all its 500 houses. Another 40 perished in the fire which swept through the ruins.

Fire fighting equipment was inadequate in the Gediz area and, many of the total number of casualties resulted from the fires. A cold rain and snowstorm on the day after the earthquake brought the fires under control but added to the suffering of the victims. It was reported that hot ground water was discharged. Continuous aftershocks caused panic and further damage and fatalities.

Standing crops suffered but little damage. The capital infrastructure generally survived intact. Only one road was blocked by landslides and it was quickly cleared. Electrical plants and power lines remained in operation. The collapse of many small clay and brick ovens used for bread baking resulted in a shortage of bread, and bread had to be brought in from the outside to feed the thousands of homeless.



*Gediz--only
steel rein-
forced dome
remains of a
mosque.*

ACTION TAKEN BY THE GOVERNMENT OF TURKEY AND LOCAL ORGANIZATIONS:

Local municipal authorities, the Ministry of Reconstruction and Resettlement, the Turkish Military and Turkish Red Crescent Society took charge of immediate relief efforts in digging out the victims and in extinguishing the fires.

Soldiers were sent to the disaster area to provide immediate assistance and to prevent looting. Teams from the Ministries of Interior, Health, Agriculture and Village Affairs went to the disaster area to assess the needs and provide assistance.



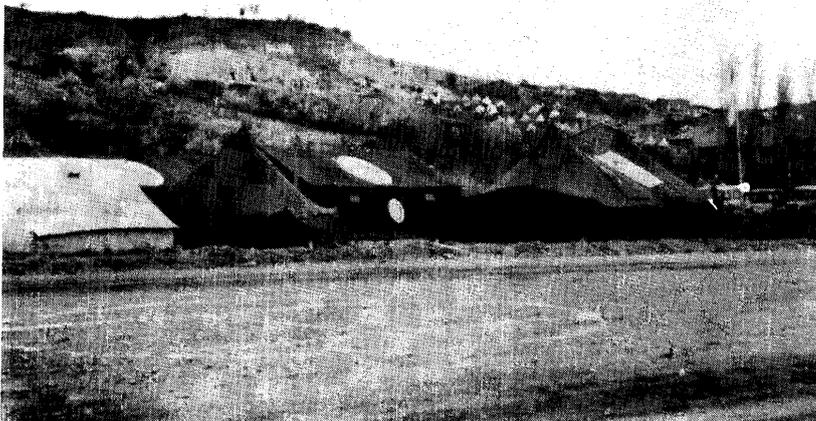
*Akcaalan--
burned out
section.*



*Igdiz - former
village guest
hotel*

Rain and snow in the days following the earthquake made the initial relief operations difficult, particularly in remote villages. After the initial "digging out" phase, the Red Crescent and ad hoc members of the Turkey Disaster Relief Committee assumed responsibility for relief activities. Operating from Gediz as headquarters, the Red Crescent collected and distributed food and clothing and set up field hospitals and a communication center.

Relief operations in small villages and in groups of city blocks in Gediz were superseded by relief committees headed by local authorities or



*Kizilay (Red
Crescent) field
hospital and
helicopter land-
ing site.*



*Soldiers and
Red Crescent
workers guard-
ing relief
supplies*



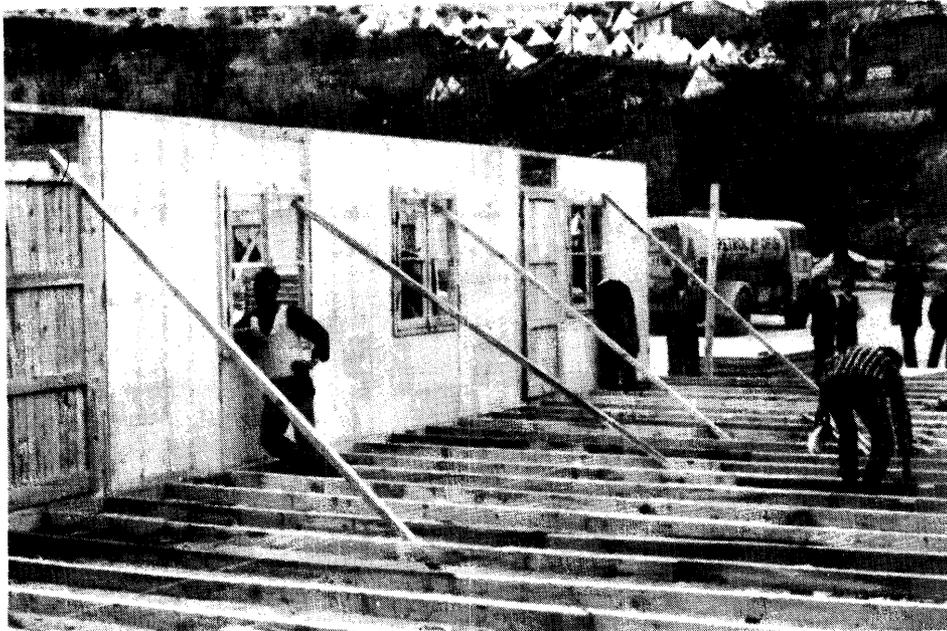
*Waiting to
receive food
cooked by
Ankara Sivil
Savunma*

officials from the Ministry of Forestry or the Military.

The response of the Turkish general public was immediate and generous. Money, food and clothing for the victims poured into Gediz Red Crescent headquarters. Civil drives and social events resulted in a contribution of almost 25 million Turkish lira (\$2.7 million) in money and commodities valued at about the same for a total of \$5.4 million. The Red Crescent spent over 20 million TL (\$2.2 million) or 70% of its year's budget for the long term relief activities. It provided tents, blankets and a 50-bed mobile hospital, a mobile kitchen, generators, food and clothing.

Turkish relief efforts were immediate and efficient. The Red Crescent's previous experience with disasters of this type contributed to its ability to collect supplies and distribute them. Large stocks of relief commodities assured prompt response to the needs. The Ministry of Reconstruction and Resettlement provided a large number of pre-fabricated houses and heavy equipment. Other Ministries and municipal governments brought in trucks, bulldozers and other reconstruction equipment.

There was some confusion and duplication in the assessment of needs, particularly at the beginning as the lines of responsibility were not clearly defined and different Ministries had different ideas on priority needs.



Gediz--putting up prefabricated housing in front of high school. Note tent village at top of photo.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

In response to the Government of Turkey request for assistance, the American Ambassador authorized sending a relief convoy from Cigli Air Force Base at Izmir, which arrived in Gediz on March 30 with power generators, lifting equipment, medical supplies, rations, cots, blankets, tents and water for the victims. The Air Force also set up a large hospital tent and then turned it over to the Turkish Red Crescent. Several U. S. medics with ambulances remained in Gediz until April 10. The cost of this operation was met from the AID contingency fund under the Ambassador's disaster relief authority and amounted to.....\$ 6,000.

The Government of Turkey advised that tents, clothing and medicine were still priority requirements. AID/W approved additional funding and AID/DRC immediately arranged for the procurement and air delivery of 1,000 tents from the United States. The request for tents was received in Washington on April 1. They arrived at Cigli Air Force base via a TWA chartered flight the afternoon of April 4. They were loaded at once onto five trucks and transported to Kitahya where they were turned over to the Red Crescent for immediate distribution to disaster victims.

Special credit for fast handling of this relief operation should go to Sears, Roebuck and Company and the Kellwood Corporation of Hannibal, Missouri, who manufactured the tents for Sears. Shipment of the tents was complicated by a truckers' "wildcat" walkout in the St. Louis area near where the tents were manufactured. This necessitated a special truck handling operation to Kansas City instead of St. Louis, which was expertly handled by Sears and Kellwood representatives. The Air Controllers' "sickout" and generally rough weather pattern throughout the midwest presented other problems, which were effectively handled by AID's Resources Transportation Division and Trans World Airlines.

Cost of emergency purchase of 1,000 tents from Sears.....	\$89,250	
Airlift and distribution costs.....	<u>50,750</u>	\$140,000

Also, AID agreed to reimburse Catholic Relief Services and Lutheran World Relief for shipping costs on donated clothing and water purification tablets. Transportation charges were.....	<u>28,000</u>	
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Total cost to AID Contingency Fund.....		\$174,000
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USG P. L. 480, Title II, Food for Peace Commodities

USAID authorized CARE to release up to 55 tons of wheat products and 10 tons of edible oil from its regular in-country stocks for emergency feeding. Actual amount of these commodities that were transferred from CARE's Ankara warehouse were: 24,200 pounds of flour; 36,900 pounds of bulgur wheat; 22,836 pounds of vegetable oil.

Estimated market value of these commodities.....		6,000
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The USG also provided P. L. 480 food commodities to the World Food Program housing reconstruction projects valued at.....		108,430
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Excess Property

USAID allocated two bulldozers, two crane shovels and three dump trucks from excess property already in Turkey for disaster relief uses. This equipment was turned over to the Gediz municipal officials. Value was estimated at.....

		<u>35,000</u>
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Total USG Contribution.....		\$323,430
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ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

CARE

CARE arranged for the diversion of 42 tons of USG P. L. 480 food. From its own resources CARE purchased 1,550 blankets and allocated funds for long-term reconstruction activities. Total amount for the blankets and cash for reconstruction was.....\$ 15,000

American National Red Cross

ANRC made a cash donation to Turkey Red Crescent of \$15,000 and sent 5,000 units of gamma globulin, for a total of..... 20,000 Arrangements for airlift of the gamma globulin from the United States were made by AID/DRC. The gamma globulin was transported on the US Air Force Chief of Staff's plane when he made an official visit to Turkey shortly after the disaster.

Catholic Relief Services

CRS donated 100 tons of clothing and 650,000 halazone tablets valued at \$281,895, and made a cash contribution of \$5,000 through Caritas, for a total of..... 286,895

Lutheran World Relief

LWR donated 185,000 pounds of used clothing valued at..... 185,000

Church World Service

CWS made a cash donation through the World Council of Churches of 5,000

Total Contributions by US Voluntary agencies..... \$511,895

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

The following contributions were made by governments, Red Cross societies and relief organizations. Where separate information on the exact source was available, breakdown is shown. Where no source is indicated, it is usually, but not always, a contribution made through the Red Cross of the country. Contributions are shown in dollar equivalents.

Afghanistan - cash.....	\$5,000	
Embassy - cash.....	40	\$ 5,040
Algeria - cash.....		2,040
Australia Government - cash.....	\$15,000	
Red Cross - cash and supplies.....	3,740	18,740
Austria Red Cross - cash and supplies.....	\$45,240	
Private sources - cash.....	9,700	
Caritas - cash.....	8,000	52,940

Belgium - supplies.....		\$ 14,100
Bulgaria - supplies.....		7,530
Canada Government - cash.....	\$15,000	
Red Cross - cash.....	<u>15,000</u>	30,000
Cyprus private sources - cash.....		390
Czechoslovakia - supplies.....		14,100
China Government - cash.....		6,870
Denmark - Supplies.....		15,500
Finland Red Cross - supplies.....	\$78,830	
Turkish-Finnish Association - cash.....	<u>3,350</u>	82,180
France - supplies.....		21,720
Germany Democratic Republic - supplies.....		29,270
Germany Federal Republic - supplies.....	\$317,240	
Private Sources - cash.....	<u>27,310</u>	344,550
Great Britain - supplies.....		233,760
Greece Red Cross - supplies.....	\$32,660	
Government - supplies.....	<u>54,870</u>	87,530
Honduras - cash.....		50
Hungary - supplies.....		12,560
Iceland - supplies.....		2,880
India - supplies.....		3,740
Iran - supplies.....		41,920
Iraq - supplies.....		2,800
Indonesia Government - cash.....		6,870
Ireland - cash.....		3,600
Italy - supplies.....	\$97,290	
Students of Gibellina High School - cash.....	130	
Caritas - cash.....	<u>3,000</u>	100,420
Japan Red Cross - supplies.....	\$ 4,860	
Government - cash.....	<u>20,000</u>	24,860
Jordan - cash.....		700
Republic of Korea Government - cash.....	\$10,000	
Red Cross - cash.....	<u>300</u>	10,300
Kuwait Red Cross - cash.....	\$ 2,390	
Government - cash and supplies.....	<u>129,230</u>	131,620
Lebanon - cash.....		120
Liechtenstein - cash.....		1,440
Luxembourg - cash.....		1,400
Liberia Government - cash.....		15,000
Monaco Red Cross - cash.....	\$ 1,570	
Government - cash.....	<u>4,080</u>	5,650
Netherlands - cash and supplies.....	\$111,440	
Caritas - cash.....	<u>3,000</u>	114,440
New Zealand - cash.....		16,850
Nigeria - cash.....		560
Norway Government - cash.....	\$22,400	
Red Cross - cash and supplies.....	<u>18,220</u>	40,620
Pakistan - supplies.....	\$ 9,610	
Embassy - cash.....	<u>440</u>	10,050
Philippines - cash.....		500
Poland - supplies.....		4,180
Rumania - supplies.....		16,740

Saudi Arabia Red Crescent - cash.....	\$ 12,190
South Africa - cash.....	280
Sweden - cash and supplies.....	196,940
Switzerland - supplies.....	\$66,140
Caritas - cash.....	<u>7,500</u> 73,640
Syria Red Crescent - cash.....	3,980
Thailand - cash.....	380
Tunisia - supplies.....	5,530
USSR - supplies.....	22,190
United Arab Republic Government - supplies.....	21,630
Vietnam Government - cash.....	550
Yugoslavia - supplies.....	7,110
Zambia Government - cash.....	1,420
Magen David Adom in Israel - supplies.....	5,000
Various private donations through League of Red Cross Societies...	14,160
UNESCO - relief bonds.....	7,000
Pope Paul - cash.....	5,000
World Council of Churches - \$10,000 less US/CWS contribution.....	5,000
Caritas International - cash.....	5,000
European Urban Fund - cash.....	5,000
European Investment Bank - cash.....	5,500
	<u>\$1,933,630</u>

World Food Program

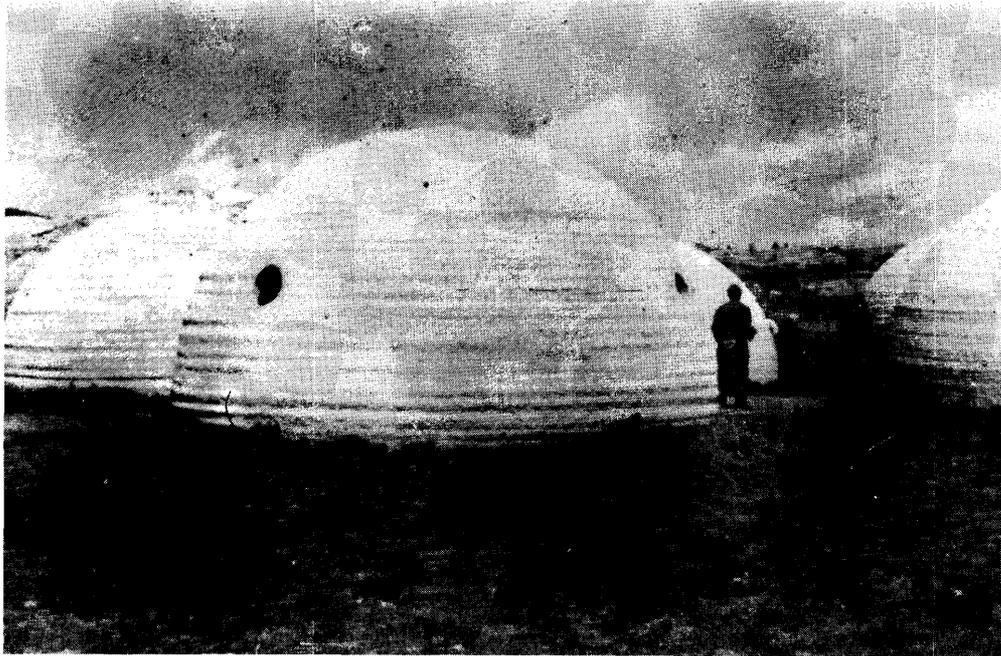
The World Food Program authorized the use of food commodities for up to 100,000 people for four months in the Gediz area but few of these commodities were used during the emergency period because of the large donations of food from within Turkey and other governments. WFP commodities were therefore used in the reconstruction phase in accordance with a WFP project for housing. Information was not available on the amount and value of this food except for that contributed by the United States which is shown under U. S. Government above.

West Germany

West Germany's contribution to the earthquake victims was significant in terms of its immediate delivery, sustained operation, magnitude and public recognition. In addition to supplying large amounts of food, the German Red Cross sent a contingency of technicians to provide potable water in isolated areas as well as to construct a new type of prefabricated housing. In all, West Germany sent 115 planeloads (1,056 tons) of supplies to the Gediz area.

The new type of prefabricated housing was in the form of an "Igloo" developed by the Farben-Bayer Company. Under auspices of the German Red Cross, 300 of the igloos were set up in Turkey. It was the first time these had been used in an actual disaster. Following is a description of them.

A half-sphere is blown up over a motorized base and sprayed with a chemical mixture. The foam substance does not adhere to the base. A foam half-sphere results and openings are cut out for plastic windows and doors. Fabrication of an igloo requires one hour. Since the insulating foam substance keeps heat in, a temperature of about 18 degrees centigrade is maintained when the igloo is occupied by people. The "roundhouses" can be picked up by two men and placed in any spot chosen.



Completed "Igloo"

INDONESIA

CHARACTERISTICS OF THE DISASTER

EVENT: Famine

DATE-TIME: 1969-1970

LOCATION: Flores Island and to a lesser extent Timor Island and North Sulawesi

DISASTER VICTIMS:	<u>Number of People Requiring Food Assistance</u>	
	Flores	212,000
	Timor	17,800
	North Sulawesi	11,000
		<u>250,000</u>

DESCRIPTION OF THE DISASTER:

Flores

This was a "creeping" disaster caused by several factors. Flores is a very mountainous island 230 miles long and 35 miles at its widest point. It lies in the province of Nusa Tenggara, near the eastern end of the Lesser Sunda Islands. It has about one million people of mixed Malay, Papuan and Mongolian blood, engaged almost exclusively in an agriculture of rather primitive means. Life for most of the people, even under the best of conditions, is marginal. The island can be said to be afflicted with overpopulation. While land is sufficient for the number of people, present utilization is not productive enough to feed all of them adequately.

Normally there is a "hungry period" every year between the months of November and April, when last year's harvest has been exhausted and the new crops have only just been planted. When this line of survival is broached by events out of the ordinary, an emergency is inevitable.



Mt. Ija, a volcano situated on a tiny peninsula of land separating Endo and Ipi Bays, erupted on January 27, 1969. No great damage was done in the immediate vicinity of the mountain. Winds, however, carried the ash over much of the western part of the island, which is the bulk of the land mass. This ash covered the new crops which broke under the weight. About 70 to 80 percent of the 1969 harvest was lost. In Waearana, a station on the south coast near the port of Aimere, approximately 100 miles from the volcano, a blanket was put outside when the ash began to fall. When the shower ended, the contents of one square meter of the blanket were weighed and amounted to over 4.4 pounds. The people were deprived of their regular harvest and were unable to put in new crops since by the time the ash could be removed it was too late in the season to plant.

This condition was then compounded by the fact that sections of the eastern part of the island experienced great difficulties from rats late in the growing season. While it seems difficult to believe, hordes of rats periodically become active on Flores (as well as other nearby islands) and are capable of destroying complete fields in one night's time. Many acres were decimated in this area of the island.

Word was slow coming from Flores on the situation that was developing. Part of the problem lay in the fact that some local governmental officials were reluctant to admit there was evidence of a famine. Stored crops were soon exhausted and the people began to eat seeds for next year's crops. A main diet of poisonous jungle roots caused many deaths because the people did not wait for the necessary three day soaking period. Teachers ordered schools closed as students were too weak to follow lessons. Hospitals urgently requested food for patients with hunger edema. Also, it was reported that people were eating terminal shoots of coconut trees which could destroy the island's principal industry.

Timor and North Sulawesi Emergencies

The eruption of Mt. Lokon in Tomohon District, North Sulawesi, reportedly caused the food shortage in that region. A food emergency was also reported for Timor Island but details were not available.

ACTION TAKEN BY THE GOVERNMENT OF INDONESIA AND LOCAL ORGANIZATIONS:

The Government of Indonesia provided food stocks but when these became exhausted Catholic Relief Services, with concurrence of the Indonesian Government, proposed to USAID that they be given additional supplies of USG P. L. 480 Food for Peace bulgur to be distributed to needy families through food-for-work-projects.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

USAID and AID/W approved the following diversions of USG P. L. 480 food for distribution by the Government of Indonesia and Catholic Relief Services:

Flores

44,056 bags (2,202,800 pounds) of bulgur were shipped on the SS Toluk Kau, which left Djakarta on January 6, 1970, and arrived at five different ports on Flores between January 11 and January 25. It was reported that the bulgur did arrive in time to meet the basic requirements of the emergency and that many expressions of gratitude were spontaneously forthcoming. Estimated market value.....\$ 88,110

Timor

Diversion by CRS/Djakarta of 400,000 pounds of bulgur, with an estimated market value of..... 16,000

North Sulawesi

Diversion of 500,000 pounds of bulgur by CRS, estimated market value 20,000
\$124,110

In addition the American Ambassador exercised his disaster relief authority to commit AID contingency funds for part of the transportation costs of delivering the bulgur to the disaster areas.... 8,000

Total USG Contribution..... \$132,110

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services

CRS diverted above USG P. L. 480 bulgur from its in-country stocks and cooperated with the Indonesian Government and USAID in the food-for-work projects for famine relief. In addition, CRS donated funds to help pay for cost of shipping the food..... \$ 7,000

ASSISTANCE PROVIDED BY OTHER NATIONS: None Reported

KOREA

CHARACTERISTICS OF THE DISASTER

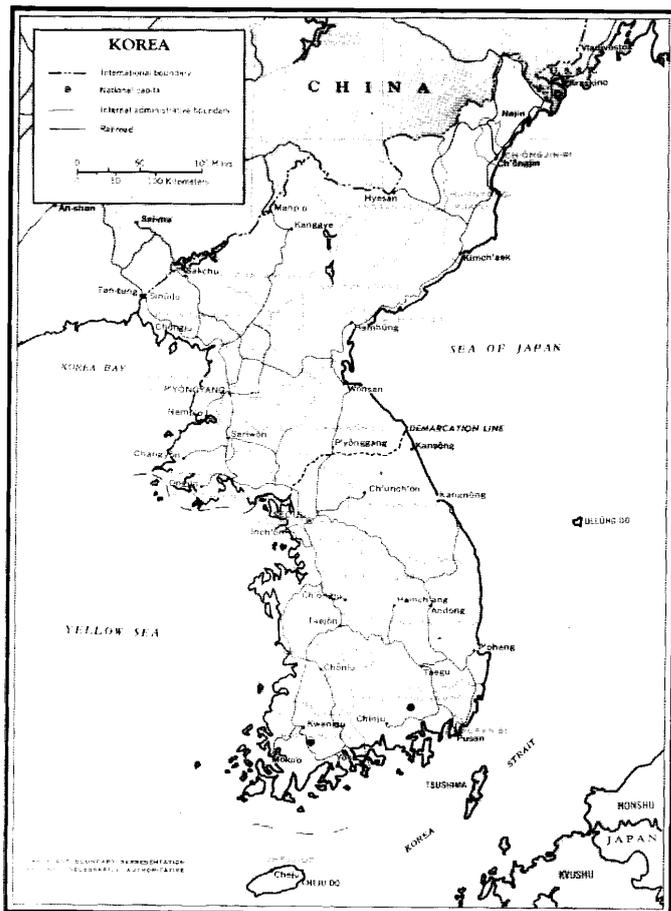
EVENT: Flood

DATE-TIME: Sept. 14, 1969 through Sept. 25, 1969

LOCATION: Eastern and Southern Coastal Provinces

DISASTER VICTIMS:	<u>Killed</u>	<u>Injured</u>	<u>Homeless</u>	<u>In Need of Immediate Aid</u>
	408	409	32,664	227,264

DAMAGES:	<u>Homes Destroyed/Damaged</u>	<u>Fishing Boats Damaged</u>
	7,346 42,000	686



Roads Damaged
2,121 locations

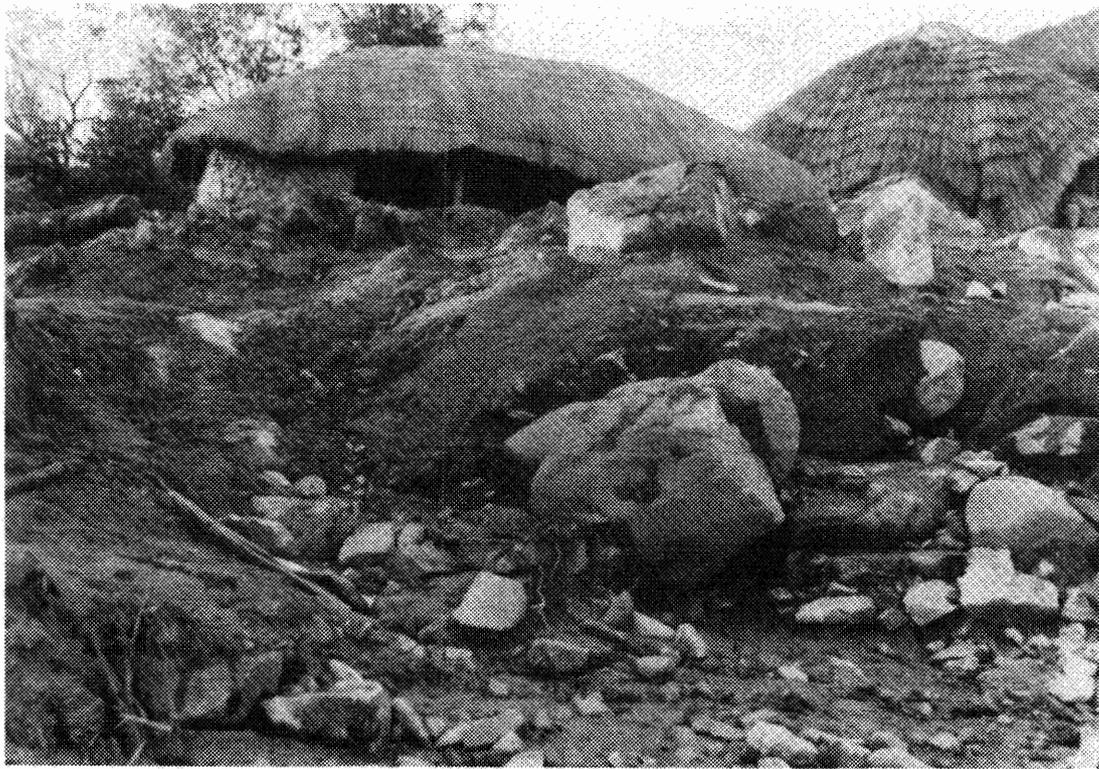
Bridges Destroyed or Damaged
752

Crop Losses - Metric Tons
256,685

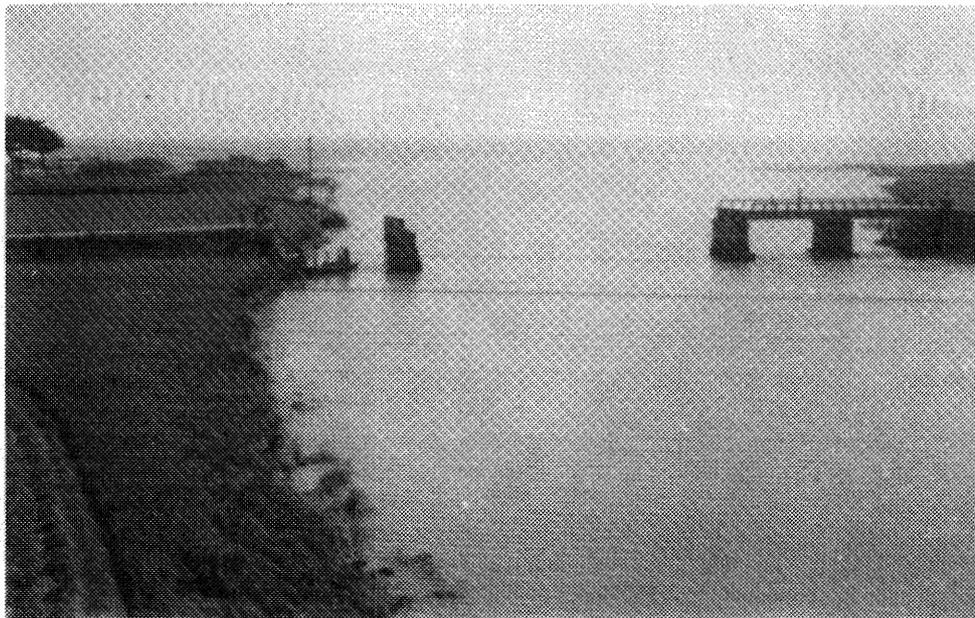
Estimated Dollar Damage
\$22,400,000

DESCRIPTION OF THE DISASTER:

Torrential downpours which began on September 12 and continued through September 15 resulted in the worst flood in the southern and eastern coastal areas in ten years. During this four day period, 11 inches of rain fell in Kyung Sang Pukto, Cholla Namdo and Kyung Sang Namdo. The latter province suffered the most from the floods, and in Yangsan area of Kyung Sang Namdo rainfall measured 25 inches for this four day period.



Housing Damage



Bridge Destruction

The storm extended as far south as the island province of Cheju Do, where some damage occurred but it was not as severe as on the mainland.

Hundreds of people were killed and injured, thousands were left homeless and there was extensive damage to communications, electrical facilities, roads, bridges, fishing boats and agriculture. Some communications were out for as much as two weeks after the beginning of the storm.

ACTION TAKEN BY THE GOVERNMENT OF KOREA AND LOCAL ORGANIZATIONS:

Governors of the provinces affected immediately activated their Provincial Disaster Relief Committees (PDRC). These committees are headed by the Governors and include representatives from each of the various agencies and bureaus in the provinces such as Health and Social Welfare, Construction, etc., that have a necessary function in a disaster situation. While PDRCs can make recommendations to the Governors, they are basically implementing organizations remaining under the exclusive control of the Governors.

The Provincial Committees coordinated rescue operations and immediately issued instructions to the lower provincial officials to take all possible measures to prevent further disaster. They authorized the release and distribution of Korean Government emergency food reserves.

The National Government and the provinces released funds to pay for the burial of victims and gave each bereaved family 11,000 won (about \$350) condolence money. The Korean Government made 48 million won (about \$150,000) available to meet immediate emergency expenses. In order to deal more closely with local problems, the Provincial Committees set up branch committees in different locations in the provinces affected. The Provincial Committee of Kyung Sang Namdo Province appealed to the National Government and the US Military Command for aid in rescue operations and urgently needed road repairs.

After dealing with the immediate emergency, the Provincial Committees began to plan for a rehabilitation program. Cost of the relief program, including long term rehabilitation in the affected areas, was estimated at 7.3 billion won (\$25.2 million equivalent). Dollar value of in-country donations, both private and government totaled \$1,835,553.

Appraisal of Effectiveness of Korean Government Relief Operations and Preparedness Program

The Korean Government relief operations were effective and well managed. Difficulties occurred due to lack of funds and material resources needed to deal with large emergencies. The Provincial Disaster Relief Committees were hampered to a degree by interruption in communications and impassable road conditions, especially in the more remote areas, so that there were problems in getting an accurate appraisal of the situation. While the police communications system was available, its use was not coordinated by the Provincial Committees. The police organization is nationwide and

somewhat autonomous at the provincial level. Thus they are not completely responsible to the provincial governors.

Although for the past two years the Government of Korea had placed priority upon projects designed to prevent disaster, there had been a lack of interest in these programs at the local level which delayed implementation. Also, adequate financial and material resources for these programs had not been provided by the National Government. Local budgets needed a substantial input from the National level before local officials could deal with these projects effectively.

Comment by AID/DRC

Flood disasters are among those which can often be prevented. Losses resulting from this type of disaster, especially when they occur year after year, exceed the expenditures required to implement control measures that would reduce loss of life, human misery and property damage. Countries should consider flood control projects as part of their disaster preparedness and prevention programs, not only for humanitarian reasons but also for economic considerations.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

Kyung Sang Namdo province suffered the heaviest damage. With the exception of a small amount of emergency food assistance given to Kyung Sang Pukto, Cholla Namdo and Cheju Do, all of the U. S. assistance was utilized in Kyung Sang Namdo. The Eighth U. S. Army responded to a direct request by the Provincial Disaster Relief Committee of this province for three helicopters to use in rescue operations. The Eighth U. S. Army also made available one heavy equipment company to assist with emergency road repairs, loaned the provincial government 27,000 blankets and donated 100 tents, 940,000 sandbags, 311 gallons of pesticide and 2,900 bottles of medicines.

The Mission Disaster Relief Authority was exercised by the US Charge d' Affairs to meet a request from the Korean Government for medical supplies and lumber for tent poles. These were obtained from the Eighth U. S. Army with reimbursement to the US Military for their cost from the AID contingency fund. Subsequently AID/W approved USAID recommendation to use contingency funds to procure from the Eighth U. S. Army 846,000 board feet of lumber and 16,800 sheets of metal roofing to reconstruct 600 of the 7,346 homes destroyed by the floods. There was a two months delay in delivering this lumber and roofing. By then the flood housing reconstruction was more than 70% completed. The Korean Government had had to use materials it had allocated to other housing projects so those destroyed in the floods could be built before the winter season. On recommendation of the U. S. Mission, AID/W approved the use of this lumber and metal roofing on the Government housing renewal projects since their late arrival had made necessary the diversion of construction materials previously allocated to these projects.

Also, USAID approved the diversion of 259.2 metric tons of P. L. 480, Title II, CSM (corn-soya-milk) from Catholic Relief Services in-country stocks and the transfer of 7,000 metric tons of flour from the ongoing P. L. 480, Title II Program, to emergency relief. Later AID/W approved a grant of 15,000 metric tons of flour for continuing food assistance through June 30, 1970.

USAID Rural Development officers assisted and advised the provincial governor throughout the emergency period.

Recap of USG Assistance

From the AID Contingency Fund:

Medical supplies - reimbursement to 8th US Army	\$7,991	
Calcium hypochlorite "	774	
Lumber for tent poles "	2,924	
16,800 sheets metal roofing "	40,152	
846,000 bd.ft. of lumber "	95,210	
8th US Army accessorial charges	<u>26,712</u>	\$173,763

P. L. 480 Food:

259.2 MT CSM from CRS, estimated market value	\$ 40,000	
Special grant of 15,000 MT of flour, market value	1,305,000	
Plus ocean freight charges	<u>640,000</u>	\$1,985,000

US Military Donations not reimbursed by AID

940,000 sandbags, est. at 25¢ each by AID/DRC	235,000	
100 tents, est. at \$400 each by AID/DRC	<u>40,000</u>	\$ 275,000

Note: It is not known if the 311 gallons of pesticide and 2,900 bottles of medicine reported as donations from the 8th US Army were items reported above under medical supplies, for which they were paid by AID. In any event, AID/DRC was unable to place a value on these.

Total USG Contribution..... \$2,433,763

USAID reported that the medical supplies and blankets from AID, US 8th Army and US voluntary agencies were the most successful relief items, and that USG P. L. 480 food commodities provided for reconstruction projects were the most useful rehabilitation items.

The following is quoted from a US Mission report:

The deep appreciation of U. S. assistance by local government officials and recipients was repeatedly echoed in the mass communications media. The U. S. contributions did much to reaffirm and substantiate the image of the United States as being a benevolent and generous country in time of need.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

Catholic Relief Services

Diverted above P. L. 480 CSM and made a cash donation of..... \$2,000

Other US Voluntary Agencies

Catholic Relief Services and other US voluntary agencies not identified in the Mission report but probably including Church World Service/ Lutheran World Relief and Seventh-Day Adventist Welfare Service donated 23,870 blankets and 12,800 pieces of clothing. AID/DRC estimates the value of these items at about.....\$ 85,000

CARE - 1,000 basic food packages valued at..... 10,000

American National Red Cross - cash donation..... 7,000
\$ 104,000

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Australia Government - 100 metric tons grain	\$10,300	
Red Cross - cash and supplies.....	<u>3,120</u>	\$ 13,420
Brazil - cash.....		50
Burma - cash.....		420
Canada Government and Red Cross - cash and supplies...	\$37,140	
Government - 4,200 metric tons of grain.....	<u>483,000</u>	520,140
Republic of China - 100 metric tons grain.....		10,300
Denmark Red Cross - supplies.....		11,740
Finland Red Cross - cash.....		2,320
Republic of Germany - cash.....		5,060
India Red Cross.....		1,070
Iran Red Cross.....		2,000
Japan Government and Red Cross.....		10,000
Malaysia - cash.....		4,710
New Zealand Red Cross - cash.....		3,500
Norway Red Cross - supplies.....		2,800
Netherlands Red Cross - supplies.....		2,210
Philippines Government and Red Cross - cash.....		1,300
Sweden Red Cross - cash and supplies.....		33,250
Switzerland Red Cross - supplies.....		6,110
South Africa Red Cross - cash.....		280
Thailand - supplies.....		370
United Kingdom - cash and supplies.....		7,090
Uruguay - cash.....		340
Republic of Vietnam - cash.....		10,650
UNESCO Staff - cash.....		<u>230</u>
		\$649,360

KOREA

CHARACTERISTICS OF THE DISASTER

EVENT: Cholera Epidemic

DATE-TIME: September 2 to October 24, 1969

LOCATION: Provinces of Seoul, Pusan, Chungchong Namdo, Kyonggi Do, Cholla Pukto, Cholla Namdo, Kyongsang Pukto, Iyongsang Namdo

DISASTER	Cases	Deaths
VICTIMS:	<u>1,538</u>	<u>137</u>

DESCRIPTION OF THE DISASTER:

The US Mission was advised on September 16 by the Vice Minister of Health and Social Affairs (MHSA) that cholera had reappeared in the area of Kunsan City after an absence from Korea of five years. The initial case was reported on September 2 and the last case on October 24, after cold weather had set in and anti-cholera measures enforced.

Sources of the outbreak were probably seamen from a vessel or vessels unknown arriving from certain Southeast Asia countries and disembarking at Kunsan, especially since the causative agent was identified as non-hemolytic El Tor cholera vibrio which is endemic in other countries of Southeast Asia. Males who contracted the disease predominated over females by two to one, and 88 percent of the cases were among persons 30 years of age or over. Of the total patients, 26.3 percent declared they had received cholera immunization prior to onset of the illness.

ACTION TAKEN BY THE GOVERNMENT OF KOREA AND LOCAL ORGANIZATIONS:

Once the cholera epidemic was recognized as a problem, it was effectively controlled by the Government of Korea. The Ministry of Health and Social Affairs established an epidemic control center headed by the Director of the Bureau of Public Health. All the public health resources and personnel of the Ministry were mobilized. Various professional experts were gathered from the universities and from the Korea National Institute of Health. Donor agencies responded and offers of help were received as news filtered into press channels and the World Health Organization was notified.

Although the Government of Korea was encouraged to request cholera expert teams from the World Health Organization/Manila and the US Navy Unit at Taiwan, it preferred to use its own professional staff. It is probable

also that it feared that such requests would focus international attention on the cholera epidemic. This might then have resulted in restrictions being placed upon imports of Korean seafood by neighboring countries.

The following cholera control measures and actions were taken by local governments and organizations: (1) isolation and specific treatment of all cases in hospitals; (2) carrier detection and treatment; (3) disinfection and chlorination of well water; (4) chemoprophylaxis of fishermen; (5) strict quarantine measures for fishermen coming ashore; (6) compulsory cholera immunization of all fishermen; (7) disinfection of fish by calcium hypochlorite; (8) ban on serving raw fish and seafood in public eating places; (9) education of the public in personal hygiene; and (10) ban on fishing at sea near infected coastal areas and compensation of fishermen so affected.

The Central Cholera Epidemic Control Headquarters mentioned above was established September 10 and disbanded on November 2, 1969. Approximately \$85.5 million won (\$300,000) was expended by the Korean Government on the cholera control program. Each province concerned set up a Cholera Epidemic Control Office in the provincial government headquarters during the course of the epidemic.

Problems encountered were mainly related to local organizations' ability to handle the epidemic. Very little, if any, capability to handle any sizeable outbreak existed in Provincial Health Centers. Of interest was the fact that material assigned to one unit was not transferred to another even though needs in the original unit had been met and the excess supplies were needed elsewhere. The U. S. Mission commented: *This should be corrected through development of a logistics system which will plan for disasters and develop regional supply bases; and, a policy of inventory and control that will best meet the needs of the country.*

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

On September 25, the Minister of Health and Social Affairs formally requested US Mission assistance. The Charge' considered the situation of a magnitude to warrant US help and exercised the Mission's disaster relief authority to commit up to \$25,000 from AID contingency funds to help control the epidemic. This amount was later increased with AID/W approval.

U. S. Government assistance was primarily directed towards supplementing ongoing Korean relief efforts with medical supplies and technical assistance. In this over-all effort the activities of USAID and the U. S. Eighth Army were coordinated with the Bureau of Public Health, Preventive Medicine Section of the Ministry of Health and Social Affairs, the Korean Task Force and World Health Organization. Extensive liaison between USAID and the Government of Korea was carried out in making necessary logistical arrangements for receiving air freight shipments of vaccine and other supplies from the United States and Turkey. In addition, at the request of USAID, the US Eighth Army conducted a training session for ten Korean Government technicians in the use of the ped-o-jet injection gun.

The USG provided the following medical supplies:

700,000 cc's cholera vaccine (bottled)	\$ 9,275	
3,333,760 cc's cholera vaccine (bulk)	35,000	
10,000 liters cholera replacement fluid	7,500	
2,500 intravenous injection sets	812	
500,000 disposable needle/syringe sets	18,000	
1 million disposable hypodermic needles	16,150	
10 injection guns (on loan)	-	\$ 86,737

The cholera vaccine as well as intravenous cholera replacement fluid, injection guns and other equipment was made available from the NESA cholera emergency reserve stocks in Turkey and New York. As a result, reimbursement from the AID contingency fund was not required. The value of these supplies is listed as a contribution from AID project funds. Actual expenses related to the AID contingency fund (including the amount authorized by the Mission) were as follows:

Air freight charges for supplies above	\$62,170	
Expenses related to shipping vaccine drums from Pusan to New York	520	
Port handling charges in connection with steel drums (in Pusan) - paid in won	339	
Air freight charges for cholera supplies furnished by Catholic Relief Services	456	\$ 63,485

In addition, the following items were furnished by the US Eighth Army for which reimbursement from AID was not requested: 100 cots, 100 blankets and cholera treatment supplies, total value 5,000

Total USG Contribution.....\$ 155,222

Three letters of appreciation were received by USAID from the Minister of Health and Social Affairs of the Republic of Korea for AID assistance. One of these contained the following remark: *"the closest friendship between the United States and the Republic of Korea is reassured with this aid."*

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES

Catholic Relief Services

50,000 sulfadimethoxide tablets; 16,000 capsules tetracycline; and 31,000 chloromycine tablets, estimated value.....\$ 12,000

American Korean Foundation

60,000 cc's cholera vaccine..... 5,300
\$ 17,300

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

The Japanese Government contributed 122 bottles of chloramphenical tablets and erythromycine. Value was not reported.

The following governments and Red Cross Societies donated cholera vaccine:

Free China	-	700,000	cc
Thailand	-	120,000	cc
India	-	80,000	cc
Britain	-	80,000	cc
Japan	-	500,000	cc
Sweden	-	23,000	cc
		<u>1,503,000</u>	cc

No value was reported on this vaccine but it is estimated by AID/DRC that the 1,503,000 cc's would have a value of about.....\$15,000

LAOS

CHARACTERISTICS OF THE DISASTER

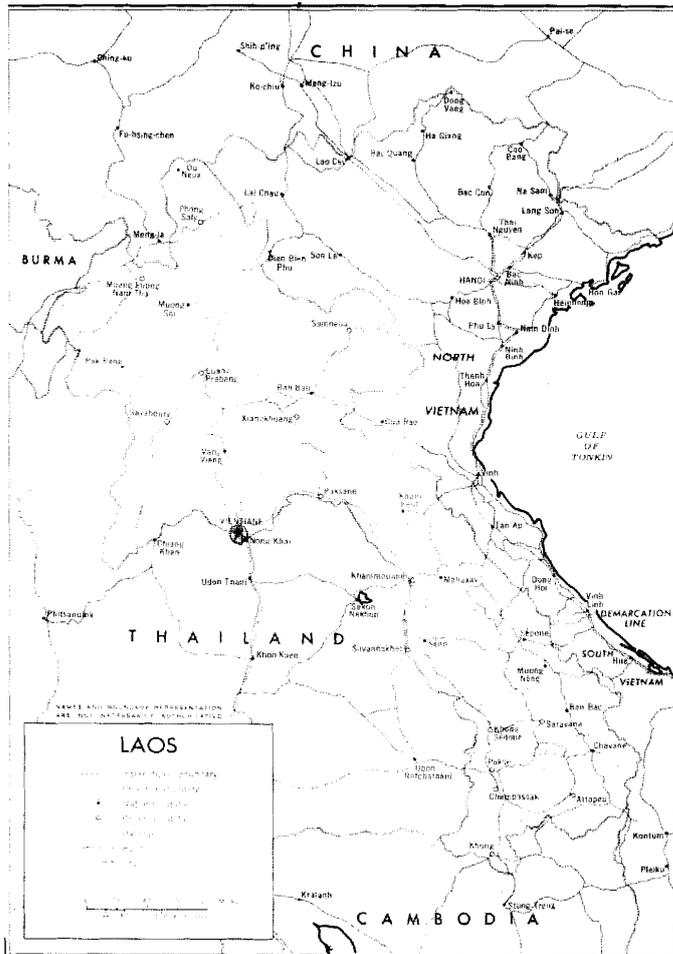
EVENT: Floods

DATE-TIME: August 15-21, 1969

LOCATION: Vientiane Area

DISASTER VICTIMS: The floods did not develop to the seriousness that had been expected and no disaster victims were reported.

DAMAGE: Crop Losses - About \$500,000



DESCRIPTION OF THE DISASTER:

A flood episode in Laos threatened to be of sufficient severity and magnitude to warrant taking extensive counter measures. The Mekong is normally a high rise river with steep banks averaging 35 to 50 feet in height along its length in the Vientiane plain area. An impressive rise in the water level along these banks does not create concern until it approaches a few feet from the top edge and thereafter inch by inch rises indicate that the water may suddenly overflow the banks and spread rapidly inland.

Primary indications of the possibility of a flood in the Vientiane plains is derived from water level readings from Ban Houei Sai, which is normally the first area in Laos to experience flood conditions from the Mekong. Usually a sudden rise at Ban Houei Sai will be reflected 24 hours later at Luang Prabang

and 36 hours later at Vientiane.

Starting Friday morning, August 15, it became apparent that the rising waters could trigger a flood condition in the Vientiane plains area. The river gauge reading was 11-63 and the flood level at Vientiane had been established at 12 meters. The rise during the preceding 72-hour period had averaged a centimeter an hour with some levelling off periods. The water level readings at Ban Houei Sai and Luang Prabang were closely monitored by SSB radio for predictions of what would happen at Vientiane. It looked as though the river would continue to rise and flood conditions as severe as those of 1966 might result. The U. S. Mission set up a flood control committee. A daily watch was set to receive river readings. Field stations were alerted. Families in houses that might be the first to be flooded were notified to be ready for evacuation.

Fingers of water started reaching slowly inland to spread and cover Wattay Airfield, the Continental Strip, and edge further inland in a wide arc toward the U. S. AID Mission's "Sunset Village". While the situation never reached true flood disaster conditions, the Mekong overpoured its banks at a few points around Vientiane and there was extensive paddy flooding south and east of the city. Villagers in the paddy area in the river bend southwest of Vientiane were the hardest hit and needed some relief assistance but there was no reported loss of life, damage to roads or bridges, nor houses destroyed. This was due to the short inundation time.

In 1966 flooding of the Mekong in Laos resulted in 300 persons being killed, 70,000 evacuated and dollar damages estimated at \$15.3 million. The potential for a similar disaster with this 1969 flood was great and justified the advance preparations and expenditures made to prevent loss of life and protect property.

ACTION TAKEN BY THE GOVERNMENT OF LAOS AND LOCAL ORGANIZATIONS:

Flood relief work was closely coordinated between the USAID Mission and Vientiane city and province officials. A liaison office was set up at the Vientiane Prefect's Office, jointly manned by city representatives and the USAID Vientiane Province Area Coordinator. The Laos Government requested considerable help from USAID, particularly for sandbags, POL (fuel) and engineering assistance, but they manned battle stations in their own effort in an excellent manner. Counter flood preparations were worked out jointly with the U. S. Mission.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

Based on previous flood experience, the U. S. Mission put into effect disaster and flood contingency plans as soon as the Mekong River rose to levels that posed a definite flood threat. The Ambassador exercised his \$25,000 disaster relief authority and approval for an additional \$25,000 for expenses of disaster preparedness was requested from AID/W. AID/W approved the request and obligation of \$50,000 was established. However,

when total charges were received, the cost for this flood emergency to the AID contingency fund was.....\$ 35,000. The balance of \$15,000 was deobligated.

Disaster Preparedness Steps Taken by USAID were:

1. Designation of the Assistant Director for Field Operations as Disaster Relief Officer on August 16, followed by establishment of a flood control committee consisting of representatives from the following divisions and branches of the U. S. Mission: Management, Rural Development, Public Health, Public Works, Bureau of Public Roads, Maintenance, Air Attache, Army Attache, Communications, Public Safety, Motor Transport, Supply Management and Requirements Office. A coordinating office and liaison officer between USAID and the U. S. Embassy were also designated. Considerable expertise was available among members who had experienced the 1966 flood and files from that disaster were available for reference.
2. A daily watch was set up to receive river readings twice daily from Pakse and Savannakhet and four times daily from Ban Houei Sai and Luang Prabang.
3. Action was initiated to haul sand from the crusher site to the compound for stockpiling. 100,000 sandbags were obtained.
4. All field stations were alerted to existing conditions in Vientiane.
5. Warehouse stocks were moved to safer locations or protected through sandbagging. Determination was made that there were sufficient stocks of cholera, typhus and typhoid vaccines on hand if needed. POL for generators and vehicles was checked and found adequate.
5. The Motor Transport office rounded up all boats and motors available to USAID. A contour map of the area and Vientiane city were obtained. The highest terrain in and around the city was spotted.
6. Priorities for evacuating residences were established.
7. Frequent overflights of the area were made by the Director of USAID and other key personnel. Flood relief work was closely coordinated with Vientiane city and province officials.
8. By August 20, most essential sandbagging had been accomplished. A large filter plant had been flown in from Khorat. A coordination center was set up to provide relief for Laos victims of the rising water in the Vientiane plain. U. S. assistance given on request of the Laos Government consisted mainly of sandbags, POL and engineering help.

Other USG Relief Operations

The U. S. Military provided airlift and other services without reimbursement by AID and costs attributable to preservation of USG property were charged to other than disaster relief funds.

U. S. Mission Comments

In coping with disasters, it is fundamentally an important fact that the USAID Mission in Laos, unlike missions in most other countries, does not have to take extraordinary measures beyond its normal functions and capabilities in order to cope with the situation. A substantial part of this mission's organization and daily functions are set up to help alleviate on a daily basis hardship and suffering generated by the continuous series of incountry military/refugee episodes.

In closing this narrative it might be worthwhile to speculate on the fact that as the forests in the watersheds along the upper Mekong are increasingly depleted, there will be a corresponding increase in the regularity with which the Vientiane plain area will experience flood episodes of the nature of 1966 and 1969.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES - None reported.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

None reported.

TAIWAN

CHARACTERISTICS OF THE DISASTER

EVENT: Typhoons Elsie and Flossie

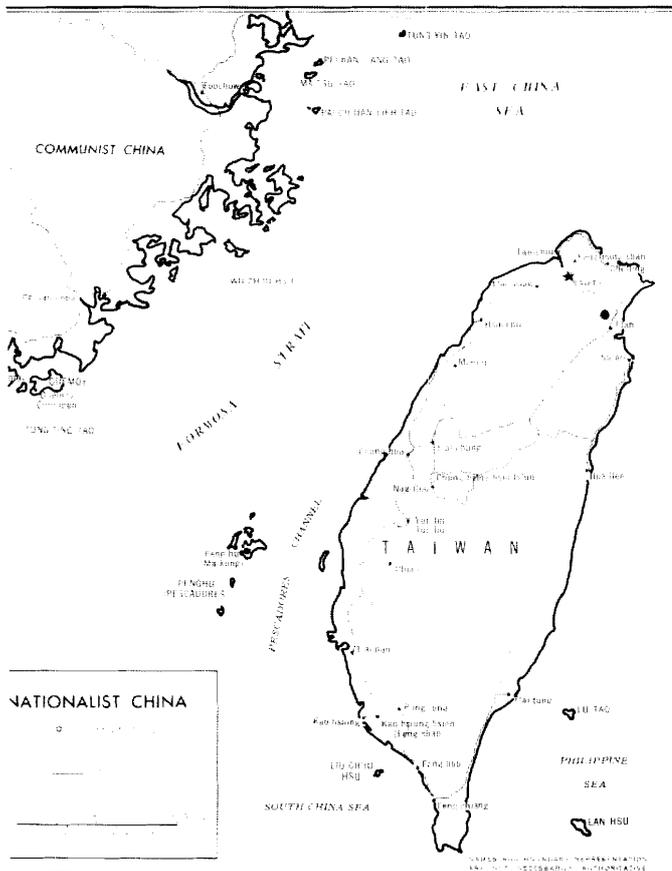
DATE-TIME: Typhoon Elsie - 9/25/69
Typhoon Flossie - 10/3/69

LOCATION: Countrywide

DISASTER VICTIMS: Killed Injured Homeless
194 408 40,000 (Est.)

DAMAGES: Homes Destroyed - 9,329

Estimated Dollar Damage
Agriculture - \$80,000,000
Industrial - 8,000,000
\$88,000,000



DESCRIPTION OF THE DISASTER:

Typhoon Elsie

With winds up to 110 mph and torrential rains, this typhoon destroyed and damaged property and crops throughout the island. A number of people lost their lives and many were injured. The banana plantations in Central Taiwan suffered the heaviest losses.

Typhoon Flossie

Although the winds of this typhoon were less than Elsie, the water damage was greater because the typhoon hovered over the island for over two days. The heaviest rain occurred on the northern end of the island where rivers and streams overflowed creating floods in the lowlands with water as high as nine feet.

The most seriously affected areas were in Taipei and Ilan counties. It was the worst flooding in Taipei in decades. People were killed and injured. Total lives lost and people injured in the two typhoons were reported and is shown above but breakdown by each typhoon was not available. Most residences in Taipei suffered damage from either Typhoon Elsie or Flossie, or both.

In addition to the losses in lives and houses, Flossie caused extensive damage to crops of all types, to shipping, railways and highways. The latter two were primarily affected by landslides. Sixty ships were lost, 10 were missing and 21 were damaged. Rice paddies and banana plantations were the heaviest hit among the crops.

ACTION TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF CHINA AND LOCAL ORGANIZATIONS:

The only known monetary Government donation reported in the immediate post disaster period was NT\$5,000,000 (equivalent US \$125,000) for victims of fires in the city of Taitung. Donations from private Chinese sources were reported to be NT38,000,000 (US \$950,000).

A committee headed by Y. S. Tsiang, Secretary General of the Executive Yuan, was appointed to coordinate and direct relief and rehabilitation activities. The troops of the Taiwan Garrison Command did yeoman duty in helping to clean the streets of Taipei once the flood waters had receded. An organization named the Committee for the Relief of Victims of Typhoons Elsie and Flossie was created to conduct a fund raising campaign.

Local disaster relief operations seemed to have been carried out in a systematic, well-organized manner. The chairman of the coordinating committee was of sufficiently high rank to insure that required actions were taken and all available resources utilized.

ASSISTANCE PROVIDED BY THE U. S. GOVERNMENT:

When the extent of the disaster became apparent, the American Embassy, the Military Assistance Advisory Group and the staff of the Taiwan Defense Command all sought to render whatever assistance possible. The Military Assistance Advisory Group volunteered use of helicopters, but these proved not to be needed. They raised money for the disaster victims, donating \$2,500 to Ilan County and \$5,000 to the Executive Yuan for a total of \$7,500. In addition, the personnel of the Military Assistance Advisory Group contributed clothing, shoes, canned goods and kitchen utensils.

The Taiwan Defense Command donated approximately 10,000 typhoid doses, purchased with U. S. Naval Hospital funds, to the Taiwan Health Department. Cost of the vaccine..... \$ 175

The American Ambassador exercised his disaster relief authority to make a donation from the AID contingency fund to the Executive Yuan for relief activities. This cash contribution went into a general

relief fund, and exact use of the USG donation cannot be identified.
The amount of this donation, which was made in local currency, was...\$12,500

Also 204 five gallon cans of vegetable oil were contributed from
USG P. L. 480 Food for Peace stocks. Estimated market value..... 1,775

Total USG Contribution.....\$21,950

The following letter was received from the Secretary-General of the Executive Yuan by the US Charge d' Affaires:

Dear Mr. Armstrong:

I wish to thank you for your letter of October 17, 1969, which you presented to me in person yesterday, together with a donation of NT \$500,000 (US \$12,500) to help those people who are in need of assistance as a result of the damage caused by Typhoons Elsie and Flossie. We will make good use of this donation in the various relief programs.

The very kind interest and warm sympathy of the Government and people of the United States, as expressed in the above mentioned letter, are much appreciated by both my Government and the Chinese people. We also feel greatly encouraged by your complimentary comments as we are rallying our efforts to relieve the suffering of the people and to rehabilitate the damaged production facilities. Sincerely yours, (signed) Y. S. Tsiang.

The American Embassy reported that initial news media reports of losses from the two typhoons were much higher than subsequent official post-disaster appraisals.

ASSISTANCE PROVIDED BY U. S. VOLUNTARY AGENCIES:

There are no US voluntary agencies operating on Taiwan. However, the Taiwan Christian Service (TCS) which is partially supported by Church World Service, distributed the above mentioned USG P. L. 480 vegetable oil, which was part of a small residual remaining from an institution feeding program. TCS also distributed clothing to the flood victims.

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Australian Embassy - cash.....	\$ 5,000
Vietnamese Embassy - cash.....	5,000
Thai Embassy.....	<u>6,000</u>
	\$16,000

